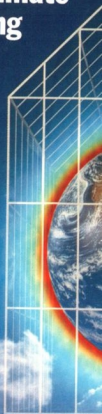


OCTOBER 19, 1987

TIME

The H

How the
Earth's Climate
Is Changing



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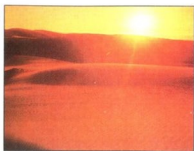
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COVER: Man-made chemicals may be hastening shifts in the earth's climate 58

A remarkable scientific expedition takes the measure of the Antarctic ozone hole and spurs concern that life on earth may become increasingly vulnerable to cancer-causing ultraviolet radiation. Disturbing evidence is mounting that emissions of carbon dioxide and other gases are heating up the world's climate at a rate unseen since the end of the ice age. See ENVIRONMENT.



NATION: Gulf tensions rise as the U.S. and Iran clash again in a shootout at sea 12

American choppers sink one gunboat and disable two others after Iranians open fire. ▶ Robert Bork vows to take his futile Supreme Court confirmation fight to a vote on the Senate floor. ▶ A young Al Gore, the South's articulate contender, stakes out a hawkish role in the Democratic nomination race. ▶ Clare Boothe Luce, a woman who triumphed in a man's world, dies at 84.



BUSINESS: U.S. industry fights to regain 46 its prowess in the global marketplace

Competitiveness has become a top economic priority from Main Street to Capitol Hill. American companies have slimmed down and smartened up in the nick of time, because a bruising global battle has only just begun. As more countries become industrial powerhouses and their companies seek larger marketplaces, the U.S. will meet more and stronger competitors.



26 World

The exiled Dalai Lama calls for nonviolent protest in Tibet after Peking blames him for pro-independence riots in his homeland. ▶ Reagan sticks to his guns as the search for peace in Central America continues. ▶ Shipwrecked illegal immigrants are eaten by sharks. ▶ Inside Haiti today. ▶ Monkey business in space.

40

Medicine

A stunning book tells of the tragic mishandling of the AIDS epidemic and the eerie role of Patient Zero. ▶ AIDS and circumcision.

77

Books

In a yuppie market, hot new writers like Tama Janowitz and Bret Easton Ellis are packaged and hyped as fashionable commodities.

68

Behavior

Each year some 300 children in the U.S. murder one or both of their parents. Increasingly, they argue that abuse drove them to it.

84

Show Business

Roll over, Beethoven: Chuck Berry, turning 61 but still supple and satanic, is reelin' and rockin' with a movie and an autobiography.

73

Sport

Unable to control either the "scabs" or themselves, the N.F.L. players appear to be losing their strike inside and out.

86

Essay

Subliminally or with sticky fingers, two composers using twelve notes come up with the same tune. Has a song been stolen?

5 Letters

American Scene

45 Health & Fitness

71 People

74 Religion

74 Milestones

76 Cinema

85 Theater

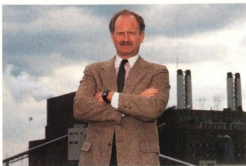
Cover: Photograph by Elle Schuster

A Letter from the Publisher

Russ Hoyle likes a good detective story. Not the kind that features hard-boiled private eyes and murderous miscreants, but the sort that unlocks the secrets of the natural world. As senior editor of a group of TIME sections that include Space, Medicine and Environment, Hoyle has lately been indulging his taste for the mysteries of the sky above and the earth below. This week's report on the possible damage that civilization is inflicting on the global weather system is the third cover story he has edited in three weeks.

The others were on the Soviet space effort and the hotly debated new report by Researcher Shere Hite that indicates women are deeply dissatisfied with men.

Hoyle, 40, a Southern-born Midwesterner educated at Harvard, became acquainted with science-related journalism in the mid-1970s as a stringer for the magazine's Boston bureau. "I reported on everything from the abortion issue to medical school cheating," he recalls. After a stint as managing editor of the *New Republic*, Hoyle rejoined TIME in 1981 as an associate editor specializing in foreign affairs. Scientific matters, though, were seldom far away. His first cover article, written for TIME's international editions in 1982, detailed the global hazards of acid rain.



Hoyle with a New York City contributor to climatic change

Soon after assuming his current duties last June, Hoyle—along with Staff Writer Michael D. Lemonick, who wrote this week's report—became intrigued by plans of the National Aeronautics and Space Administration and other agencies to investigate a disturbing hole in the ozone layer high above Antarctica. At the same time, scientists were growing increasingly alarmed about the ominous evidence of the warming of the earth's climate, caused by the so-called greenhouse effect. Says Hoyle: "When we heard about the NASA Antarctica expedition, we knew we had an awfully good peg for a look at changing weather patterns."

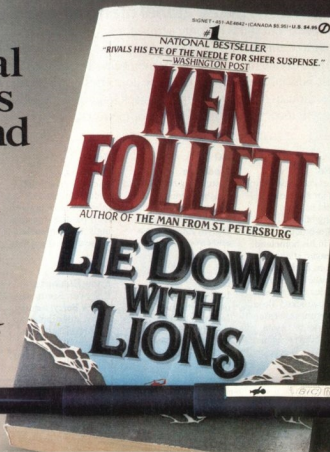
An avid yachtsman, Hoyle has had a close view of environmental damage at sea. "The problem becomes vivid when you sail into an oil slick and have to spend several days cleaning up the boat." The impact of man-made substances on weather shifts is much harder to detect. "You can't see it, touch it or smell it," says Hoyle. "That is precisely what makes the scientific discovery process so important." And precisely what makes this week's cover story such a good detective yarn.

Robert L. Miller

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Who could get writer's block with a pen that flows this smoothly? What's more, my Bic is so reliable it never surprises me while I'm writing surprises for you.

Ken Follett



Letters

Comic Relief

To the Editors:

The *Cosby Show* [SHOW BUSINESS, Sept. 28] never fails to provide family entertainment and is superior to the mindless, inane garbage that television usually offers. When I informed my five-year-old daughter that we would be going out every Thursday to her brother's soccer practice, she wailed, "But I'll miss *Cosby*."

Denise Reynolds
Tulsa



Cosby should be censured for his effect on gifts to fathers. Since taking my children to see him two years ago at Radio City Music Hall in New York, I have received only Soap on a Rope as a present.

Ted Task
Washington

This 57-year-old lady counts Bill Cosby as one of the major joys in her life. After a husband of 35 years comes Cosby. He is crazy.

Dorez Montgomery
Atwater, Calif.

Bill Cosby, the quintessence of prodigality. Twenty-two cars! Jim and Tammy were novices.

Gordon B. Dew Sr.
Garden City, S.C.

Biden's Blunder

To be effective, a President must have a credible moral stature. That requires intellectual honesty. The American people cannot and should not tolerate such a hollow, posturing phony as Senator Joseph Biden [NATION, Sept. 28].

Mark C. Watler
Houston

The reasons that Gary Hart and Joe Biden have given for withdrawing from the presidential race frighten me. It is not the adultery, plagiarism and lying that are disturbing but the underlying premise, maintained by both men, that they have

somehow been wronged and the values they lack should not be of concern to citizens in selecting a President. Hart could not control his sex life long enough to become President; Biden lied in situations in which it was not necessary or relevant. I am alarmed that neither candidate viewed these acts as immoral and representative of his character.

Brenda Mack
Los Angeles

You quote me as saying Senator Biden failed to give credit for his remarks to British Labor Party Leader Neil Kinnock because Biden "didn't know what he was saying. He was on autopilot." I never made this comment. Senator Biden is as thoughtful, decent and honest a political figure as I have known.

Tom Donilon, Senior Adviser
Biden for President
Washington

TIME regrets the error.

Biden missed a golden opportunity when he said, "I'll be back." Had he been a better student of World War II history, he could have said, "I shall return."

Howard F. O'Neal
Sacramento

Apology Due

Even if some Congressmen are right in saying the U.S. cannot afford the \$1.2 billion in restitution payments to the Japanese Americans interned during World War II [NATION, Sept. 28], the Government should at least apologize to those who were herded behind barbed wire. The fact that some Aleuts and Eskimos from Alaska and the Pribilof Islands were also in the camps proves that the order for internment was a racist act.

Vivek Golikeri
Ridgewood, N.J.

Robertson's Crusade

Pat Robertson explains that he is running for President because "God has a plan for everyone" [NATION, Sept. 28]. Interestingly, God's plan for me is to vote against Robertson. We can all hope that God has similar plans for the overwhelming majority of sane American voters who will be participating in the election process next year.

Michael D. Green
Sarasota, Fla.

It seems strange that a man who wants to be Chief Executive of the U.S. could be so misinformed about the Constitution. The Rev. Mr. Robertson's statement that nonbelievers would have no place in a Robertson Administration violates Article VI: "... no religious test shall ever be required as a qualification to any office or public trust under the United States."

Richard Gaff
Northfield, Ill.

Duck Talk

Hugh Sidey's "Eighteen Acres of Harmony" [NATION, Sept. 28] was a delightful list of trees that grow around the White House. But Sidey ran "afowl" when he concluded with observations on the quacking of surface-feeding ducks that visited the South Lawn. Any duck hunter knows that mallards quack but wood ducks do not. They whistle.

Carsten Ahrens
Pittsburgh

Toting Guns

You report that proponents of a Florida law that legalizes concealed weapons [NATION, Sept. 28] point to North Dakota's liberal gun restrictions as having a bearing on the fact that the state has the lowest violent-crime rate in the nation. North Dakota is a state where people still believe in the hard-work ethic and helping neighbors in need. It is these values, along with the quality of our life here, that contribute to the state's low crime rate.

Mark Markert
Garrison, N. Dak.

This year 350,000 Americans will use firearms to defend themselves against people like Michael Hagan, the cold-blooded murderer of a 17-year-old girl in Los Angeles. For most Americans, a gun is their only hope, since it takes the police 20 minutes to an hour to respond to a call for help. In that amount of time, you could be killed several times over.

David Jenkins
Park City, Ill.

Gimme Shelter

In your story on the burgeoning U.S. luxury-home market [ECONOMY & BUSINESS, Sept. 21], you say an impressive \$900,000 will buy a dream house. That may be so in America, but in Japan it will barely purchase an average-size home, half the size of an American home, in Tokyo's suburbs. If one prefers, however, he can use that money to buy a mere 43 sq. ft. of land in the middle of Tokyo.

Toru Katayama
Tokyo

Yesterday's Champs

What is wrong with U.S. athletes' being among the good players but no longer the athletic champions of the world [SPORT, Sept. 28]? Americans could be a little gracious at this point. The U.S. has had its share of great victories. Must we always be the biggest, the richest, the strongest, the best?

Guy P. Chance
Richmond

Your article on the current slump in U.S. athletic prowess implied that Americans should feel ashamed because they no

A woman with blonde hair and blue eyes is sitting down, leaning her head on her hand. She is wearing a light-colored bucket hat, a white tank top, a dark grey jacket, and a purple jacket. She is also wearing grey leggings and white sneakers. The background is a plain, light-colored wall with a thin purple horizontal line.

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Letters

longer dominate the sports field. The nationality of a contender should not be considered a factor when evaluating someone's athletic ability.

Vicki Root
Tucson

Friendly Relations

Your extensive story "America for Sale" [ECONOMY & BUSINESS, Sept. 14] reports how deeply Japanese companies are penetrating the American real estate market. I was surprised to learn that several famous American buildings are now owned by Japanese enterprises. Because of absurdly skyrocketing land prices in Tokyo and other Japanese cities, it may be natural for our businessmen to want to invest in the U.S., but I hope this will not be the cause of any more friction between the two countries.

Hirashi Okawa
Fujisawa City, Japan

Percentage Difference

The article on Peru, "Mario Meets Crazy Horse" [WORLD, Sept. 7], contains an erroneous statement. You say Peruvian President Alan García Pérez "unilaterally declared an annual payment ceiling of 10% on Peru's \$14.5 billion foreign debt." This would have made the country's creditors immensely happy. The figure actually was 10% of Peru's export income, which amounts to about \$300 million yearly. Quite a difference!

Rafael Nieto-Gómez
Mexico City

Southern Manners

In your review of the cookbook *Southern Food* [FOOD, Sept. 28], you note that in the South, young girls who wanted to be excused from the table were taught to say "I've had an elegant sufficiency." The comment reminded me of my uncle's excuse, when he had had enough to eat. He would say, "Gastronomical satiety admonishes me that I have reached the ultimate stage of deglutition consistent with dietetic integrity."

Pauline F. Engel
Ravena, N.Y.

The expression "elegant sufficiency" has also traveled to the North. As a child growing up in Wisconsin, I remember my mother telling the story of the little girl who was instructed to pass up second helpings at birthday parties with "No, thank you. I have had an elegant sufficiency. Any more would be a superfluity."

Anita Schill
Lake Mary, Fla.

LETTERS TO THE EDITOR should be addressed to TIME, Time & Life Building, Rockefeller Center, New York, N.Y. 10020, and should include the writer's full name, address and home telephone. Letters may be edited for purposes of clarity or space.

American Scene

In Ohio: A Town and the Bard Who Left It

When he was still a lonely high school kid in Martins Ferry, Ohio, the factory worker's son who would later become—in Critic Peter Stitt's phrase—"one of the very great heroes of American poetry" used to drop by Margret Ashbrook's house and slide his poems across the table for Margret and her mom to see. "He showed us a poem that had the word slob in it, and we told him that was an unpoetic word," recalls Margret. "But he said that's how it is, and that's how he feels, and that's how it's gonna stay. We tried all the time to get him to change things, but he was a hard fella to get to change things; he wouldn't do it. Jim was out of step with the world even then."

James Wright soon snatched his diploma and left for Kenyon College, eventually wandering far from the gritty industrial town strung along the Ohio River above Wheeling, W. Va., but he never really escaped the place. He couldn't. A hypersensitive youth who just happened to be set down amid swirling olive water and factory steam, Wright had had his poetic subject matter handed to him on a dinner plate. He neither forgot nor forgave the misery that he knew.

Following college, he began a more or less conventional career of academic jobs in this country, leavened by ruminative sojourns abroad. Martins Ferry continued to haunt him. Toward the end of his life, strolling through the golden sunlight of Italy, he could momentarily be blinded by a memory of the black snowdrifts back home and "the mill smoke that gets everything in the end," Wright won the Pulitzer Prize for his poetry in 1972 and died of cancer eight years later, at 52.

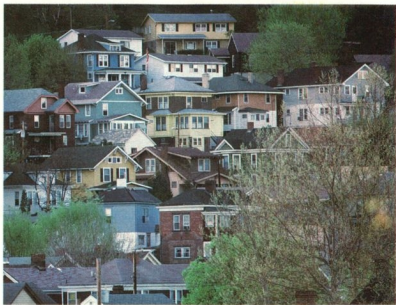
As champion and scourge of the hard-scrabble region where he grew up, Wright evokes a world coated in soot, poverty, kindness and loss. He calls the hilly easternmost part of the state "my back-broken beloved Ohio." Yet his poetry can be bitterly detailed at times, with the names of his personal malefactors spelled out. This has not always made James Wright the most popular guy around Martins Ferry.

It's difficult to tell about something as subtle and vaporous as a poet's reputation in a town not much distracted by free verse, in the heart of a republic that shuns poetry like castor oil, but lately the local wind seems to have shifted in Wright's favor. "I think there's a great deal of name recognition," observes John Storck, the youngish head librarian at the Martins Ferry public library and an organizer of the festival convened here each spring in the poet's honor, "partly because there are still a good number of his classmates around town. One of our trustees played football with James Wright. There's a feeling of as-

tonishment at how well known he is."

The stage of open animosity has long since passed, says Storck. People realize that Wright's melancholic work is "not going to be Chamber of Commerce material. They may not understand it all, but they're not upset by it." Wright rarely ventured home to test his luck. He could reach the town best from a distance, through the acid of memory.

*In a blue rag the old man limps to
my bed,
Leading a blind horse
Of gentleness.*



Martins Ferry: Poet James Wright seemed mostly to remember the grime

*In 1932, grimy with machinery, he
sang me
A lullaby of a goosegirl.
Outside the house, the slag heaps
waited.*

"The thing that Jim didn't like about Martins Ferry was some of the evil he saw," comments his sister Marge Pyle, who now lives cheerfully on a farm in Warnock, Ohio. "He didn't like that my dad had to go to work. Really, son, I don't know why. During the Depression, when other people were standing in breadlines, my dad had work and provided for us. But Jim never liked to see the underdog pressed or people misused. That was just his makeup."

This year's James Wright Poetry Festival (the seventh to date) attracts nearly a hundred participants for a night and a day of commemorative talk. The opening

session, at St. Matthew's Episcopal Church in Wheeling, finds Wright's widow quietly reading from his letters and Wright Biographer Peter Stitt delivering several of the landmark poems in a clipped, dry, ironic voice, praising the poet's deft humor and his bottomless affection for "the unnamed poor."

Encountered against a backdrop of wine and cheese, lifelong Martins Ferry Resident Annie Tanks remembers young Jim appearing at her desk to check out poetry books when she was town librarian. "Just about closing time, there he'd be," she says. When asked

whether Wright's bleak lines paint an accurate picture of her birthplace, Tanks dips her head and studies the floor for just a moment. Then: "It's probably nearer to the feel of the town than the residents would like to admit."

Gladys Van Horne, another Martins Ferry native in attendance, suggests that some people around town may be keeping a tight lid on their natural elation. "They're proud, I'm sure—more than might express it." Hardly anything in the poet's canon has the power to irk or alarm this woman, currently an editor for the *Wheeling News-Register*. "No, because I know all that happened," she says simply. "We were not intellectuals." Van Horne cautions when quizzed about Wright's near total early obscurity. "We were a coal-mining and a steel-mill town. That's where the boys went; they went to the mills or into the mines. I just don't think there was the un-

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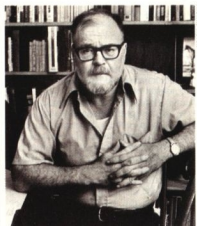


American Scene

derstanding"—this with an amused grimace—"of what had been spawned in our little town."

Dennis Orsen's reasons for being at the festival are mainly evangelical. A balding Lutheran pastor in a pale suit, the peripatetic Orsen recently settled in nearby Steubenville and found the local culture as difficult to crack as a Zen riddle. Someone suggested he read James Wright. And has this helped at all? "There's one poem about football—when I saw that, I said to myself, boy, that explains a lot of what I'm working with," he answers.

*In the Shreve High football stadium,
I think of Polacks nursing long beers in Tiltonsville,
And gray faces of Negroes in the blast furnace at Benwood,
And the ruptured night watchman of Wheeling Steel,
Dreaming of heroes.*



Ohio Poet Wright in New York, 1977

Raised in the shadow of the steel mills, James Wright kept circling back to Martins Ferry in his imagination, starved for more. He resembled "a flower in a coal heap," in the words of his biographer, and suffered cruelly in the small, tough town where he was born. But Wright gave as good as he got. One poem about the rumored demise of a warehouse in Wheeling depicts a throng of women swinging their purses as they pour into the river at dusk. What the heck is going on? the poet innocently wonders.

*For the river at Wheeling, West Virginia.
Has only two shores:
The one in hell, the other
In Bridgeport, Ohio.*

*And nobody would commit suicide,
only
To find beyond death
Bridgeport, Ohio.*

—By Bruce Morgan

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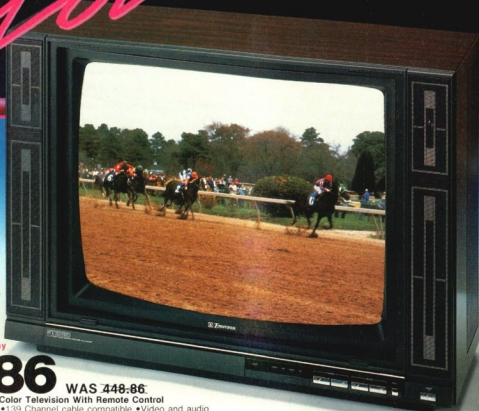
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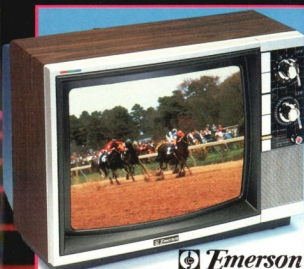
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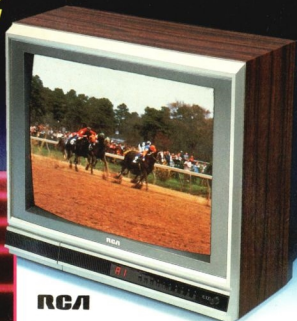
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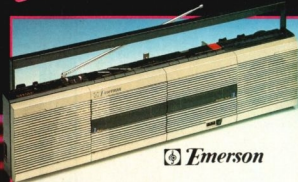
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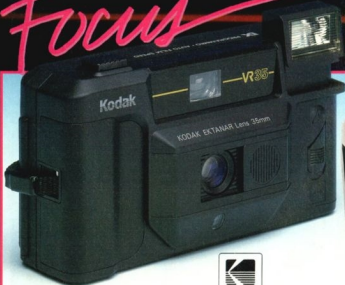
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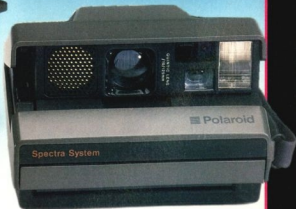


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TIME/OCTOBER 19, 1987

"We Engaged"

The U.S. and Iran take another step in their deadly minuet

For the first time in the ever widening conflict in the Persian Gulf, Iranian and American gunners aimed their weapons at each other and pulled the triggers. Iranian speedboats, which fired first, missed an unarmed U.S. Army observation helicopter. Two U.S. gunship choppers reacted with lethal swiftness, sinking one of the attacking boats and setting two others ablaze. A fourth escaped. Although hardly a major military clash, the fiery exchange on a moonlit night in the gulf last week ratcheted the hostilities yet another notch toward a real but undeclared state of limited war.

The Reagan Administration dismissed the incident as what one senior of-

ficial called merely a "dustup" with Iran, another demonstration of U.S. determination to protect shipping in the gulf. "We have told them that if they shoot at us, we shoot back," he said. "It's perfectly consistent with the rules of engagement." But with the U.S. and Iran embraced in an increasingly deadly minuet, the Ayatollah Ruhollah Khomeini's fanatical regime seems determined to ignore American rules and warnings.

The shooting in the gulf climaxed a series of bluffs and threats from Iranian naval forces in the wake of the Sept. 21 seizure of the *Iran Ajr*, which was disabled by U.S. helicopters as it was laying mines. Although the Iranians have come

under increasing diplomatic pressure and have been bloodied in recent confrontations with the U.S., they "are bolder and more belligerent than ever," says a Bahrain-based Western diplomat. Previously the diplomat thought Iran would not dare to attack American ships. Now he says, "We're headed for a confrontation."

Sources in Israel report that Western intelligence services have mounted a cooperative effort to head off retaliation by Iran. The services are tracking suspected terrorist squads that have been detected gathering information on U.S. diplomats and facilities as well as American civilians around the world, particularly in Europe. So far, the intelligence agencies have not learned of any specific plans, but they are convinced Iran means to strike if it can.

At the same time, some Iranians may again be trying to play a double game with the U.S., privately assuring the Reagan Administration of their moderation while publicly proclaiming their hostility to the West. Sources in both Tehran and Washington say the U.S. has been approached on several occasions over the past three weeks by intermediaries who claim to represent senior Iranian officials, including Speaker of the Parliament Ali Akbar Hashemi Rafsanjani.

The back-channel contacts that persuaded the Administration to sell weapons to Iran in 1985 and 1986 used a similar approach. This time the purported moderates are asking for American restraint in the gulf while they try to convince Khomeini that he should back away from a confrontation. The U.S. is not buying. "We have enough experience with the Ayatollah," says a senior Administration official. "We won't let him play off his men against ours and wiggle out of this one."

If Rafsanjani wants an accommodation with the U.S., he disguises it well. At an Oct. 2 prayer meeting in Tehran, the parliamentary speaker all but predicted a conflict with American forces in the gulf. "With great likelihood," he said, "we will get involved in a new front in the southern part of the country in the not too distant future." U.S. officials argue that America is already showing considerable restraint. "It is not our policy to confront Iran," says Sam Zakhem, the U.S. Ambassador to Bahrain. "Our actions are a direct result



Iranian gunboats on maneuvers prior to last week's attack on U.S. helicopters

"Hostilities in the Persian Gulf can no longer be called imminent."

of Iran's policy of intimidation and its attacks on innocent shipping."

The latest incident in the gulf added to the running debate in Congress over whether the President must invoke the 1973 War Powers Resolution, which would give Congress the right to review the dispatch of U.S. military forces into a situation where they face "imminent hostilities." Declared Florida Democrat Dante Fascell, chairman of the House Foreign Affairs Committee: "Hostilities in the Persian Gulf can no longer be called imminent. We are in them."

Beyond resisting what it considers an unconstitutional infringement on Executive authority, the Administration argues forcefully that the War Powers Resolution would arouse new uncertainty about the U.S. commitment, undermining a pol-

the southern part of the gulf when one of Iran's few large navy vessels moved within a mile of the U.S. destroyer *Kidd*. Warned the American commander by radio: "Iranian warship, this is a U.S. Navy warship. You have locked your fire control radar on a U.S. warship. Secure it immediately. This is your only warning." The radar signals broke off, and the Iranian ship moved away, averting a likely U.S. preventive attack.

Sailors on the Iranian gunboats sailing southwest from Farsi Island on Thursday proved far less prudent. They had been under U.S. surveillance ever since their rendezvous off the island. One of the American observers tracking the quartet of vessels was an Army pilot in an unarmed OH-6 Hughes helicopter, running quietly at 800 ft. above the water and peering at the boats through an infrared night-vision scope. He had no trouble identifying the

that could fire 4,000 7.62-mm bullets a minute. Their 2.75-in. rockets also carried a killing punch. The trio of choppers moved toward the tiny flotilla.

Suddenly, at 9:50 p.m. gulf time, the crews in all three helicopters were startled by an unexpected sight: the reddish flash of tracer bullets erupted from the boats below. There was no doubt that the choppers were being fired upon. And there was no hesitation in their response. The standing orders on gulf duty are clear: When attacked, defend yourself. They did. Radioed one pilot: "We engaged."

It was over in moments. The Boghammar blazed, then sank from view. The two small boats flared too, then drifted. The Corvette sped off toward Farsi. Arriving in two Mark III Sea Specter patrol boats, Navy SEAL commandos rushed to pluck survivors out of the water. They found six Iranian sailors, but three were badly injured and two of them died after being taken to the U.S.S. *Raleigh*, some 70 miles southeast of the wreckage site. The two small boats were taken under tow. Just how many Iranians were killed in the attack was not known.

The Iranians' official reaction was to deny that their gunboats had fired first. Once again Iran's leaders vowed to strike back at the U.S. Threatened the Islamic Republic News Agency: "The Americans will be the main victims of the heavy storm in the Persian Gulf."

So far this month, Iranian speedboats and frigates have attacked six unarmed ships in the gulf, including two Japanese tankers. That stirred Japan into offering modest help to finance the U.S. defensive operations in the international



FIGHTING IN THE GULF
A U.S. observation helicopter, accompanied by two attack helicopters, on patrol 15 miles southwest of Farsi Island is fired on by Iranian boats.

icy that has been gaining international support. "That would be extremely dangerous," contended a senior Reagan official. Ironically, the President could undoubtedly win a vote in Congress on the U.S. presence in the gulf. But each new military skirmish raises concern about where the American involvement is headed—and on that question, no one in either branch of Government has a clear answer.

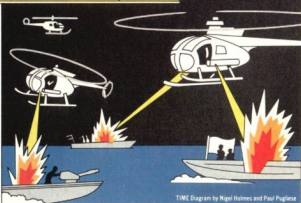
The flare-up at sea last week was preceded by several standoffs. Before the clash with the U.S. helicopters, the Iranians had massed a flotilla of up to 60 small gunboats near Kharg Island, their main oil terminal in the northern gulf. They moved ominously toward Khafji, a joint Saudi Arabian and Kuwaiti oil facility some 110 miles across the open sea from Kharg. Alerted by U.S.-Saudi AWACS surveillance planes, Rear Admiral Harold Bernsen, commander of the U.S. Navy Middle East Force, ordered his flagship, the *La Salle*, to interrupt its tanker-escort duties and race toward the flotilla.

Jet fighters from Saudi Arabia then swooped over the gunboats, which prudently turned back toward their base. If the boats had tried to attack the oil terminal, they would have been easy pickings for Saudi aircraft on the long run homeward. Some gulf diplomats assumed the Iranians were trying to scare their Arab neighbors and test the Saudi response.

Another tense encounter developed in



The two helicopter gunships, armed with rockets and machine guns, return fire on the boats, sinking one and disabling two others. A fourth boat escapes. Two U.S. Navy patrol boats pick up survivors and take them to American ships.



TIME Diagram by Nigel Holmes and Paul Pogrebe

small craft. The largest was a 150-ft.-long Corvette, a steel-hulled boat that could carry a crew of 140. There was a Swedish-built Boghammar boat, 42 ft. long, and two smaller 30-ft. vessels, dubbed Boston Whalers by U.S. seamen because of their similarity to the American fishing boats.

Trailing only 300 yds. behind the observation chopper and flying slightly lower were two similar but fully armed AH-6s. They carried Gatling-like machine guns

waterway, including some \$10 million worth of advanced navigational gear. West Germany too offered indirect support, sending three warships into the Mediterranean to free other NATO vessels for gulf patrols. Britain, France, Italy and the Netherlands already have warships and minesweepers on duty in the gulf—as does the Soviet Union, which has a dozen ships there and in the Arabian Sea.

Iraq has stepped up its air war on Ira-

Nation

nian shipping, hitting 15 enemy tankers since Sept. 25. It even sent Mirage jets ranging far south to Iran's Larak Island oil terminal near the gulf's mouth, where they damaged the Liberian-flagged *Seawise Giant*, the world's largest tanker. Iran struck back, firing two long-range missiles at Baghdad.

Military experts do not believe the Iranian navy can do much more than continue to harass shipping with mines and hit-and-run speedboat attacks. Iran has some 800 small speedboats, and the Swedish-built Boghammers, highly maneuverable and fast (up to 60 m.p.h.), could be effective in suicide attacks. One Western diplomat views them as potential "human torpedoes." Iran may also have some potent U.S. Stinger missiles, parts of which were found on the captured Boston

Whalers. Effective against helicopters as well as airliners, they reportedly were bought from American-aided rebels in Afghanistan.

So far, however, the U.S. operations in the gulf have been impressive in anticipating hostile action by Iran. As was demonstrated last week, U.S. surveillance blankets the area. American naval commanders are kept informed when ships leave Iranian ports; Admiral Bernsen even knows when an aircraft moves onto the taxiway at an Iranian airport. Yet no one is certain if this formidable American resolve would crumble if a Navy ship was lost and U.S. sailors were killed.

Democratic Congressman Les Aspin, chairman of the House Committee

on Armed Services, expressed the restiveness of many Americans as the unpredictable conflict intensified. "The President is making a serious mistake" by not seeking congressional approval of the U.S. mission, he told TIME. He does not want the U.S. to withdraw, but sees the gulf region as "politically unstable" and Administration policy as "fragile." An open-ended, ill-defined commitment that led to U.S. deaths could create a sharp public reaction. It might result, said Aspin, in "pressures either to pull out or to get really tough. I don't know which." Neither does Iran, or America's allies, and this uncertainty leaves many uneasy as the stakes grow higher in a vital waterway.

—By Ed Magnuson.
Reported by Dean Fischer/Bahrain and
Bruce van Voorst/Washington

Where Interests Converge

It could be the most telling test to date of Mikhail Gorbachev's widely touted "new thinking" in foreign policy, the idea that the U.S. and U.S.S.R. have areas of mutual interest where what benefits one side might also benefit the other. Or it could end up provoking an old-fashioned zero-sum conflict, where one superpower seeks advantage in a strategic corner of the globe at the other's expense. As America's Navy becomes ever more involved in the Persian Gulf war, the Soviet Union looms just over the horizon, its border only 600 miles from the gulf and its warships prowling its waters. Nowhere is the danger of competition greater, yet nowhere is the potential for cooperation more real: both sides want to keep the sea-lanes open, end the fighting and prevent the Ayatollah from triumphing.

Whether Washington and Moscow can work together in pursuing those goals will affect not only a Reagan-Gorbachev summit but also the possibility for a new era in Soviet-American relations. Secretary of State George Shultz leaves this week on a trip that will take him first to the Middle East, then to Moscow. There he will probe and poke at all the old U.S.-Soviet problems to see if Gorbachev's talk of new thinking is real or merely rhetorical. Shultz has been leading the Reagan Administration's effort to seek out potential areas of cooperation as a way of testing Soviet intentions. Of all the issues that American officials have been canvassing, none is getting more attention than the basket of troubles in the Middle East, where the shots being fired in the eighth year of the Iran-Iraq war are now being heard round the world.

There are promising signs. The U.S. and U.S.S.R. voted together and stood firmly behind the cease-fire resolution adopted in July by the U.N. Security Council. Iraq agreed to comply, but Iran resisted. Moscow argued that the time was not right for a reso-

lution banning all arms sales to Iran. After talking it over with Foreign Minister Eduard Shevardnadze in New York, Shultz agreed to stop pressing for an immediate arms embargo and back efforts to achieve a cease-fire. They will review the bidding in Moscow.

The Soviets have strong reasons to want the gulf war ended. Although they are talking of building pipelines and a railroad for Iran, they have backed Iraq in the war, supplying at least 70% of the arms used to prevent Iran's vastly larger forces from sweeping across the country. A defeat for Iraq would damage Moscow's standing with Arab regimes. Even worse, a triumph for Islamic revolutionary forces led by Tehran might destabilize borderlands inhabited by some 50 million Soviet Muslims. As a peacemaker, Moscow would stand to gain in all camps and strengthen its position in the gulf.

Gorbachev has recently supplemented his ideas about new thinking in foreign policy with a call to broaden the U.N. role in adjudicating regional disputes. But Moscow has made soothing noises in the past that have led nowhere. The optimistic "Spirit of Geneva" of 1955, an atmospheric condition following a summit with Stalin's immediate successors, proved to be a psychological mood devoid of any substance. The Nixon-Brezhnev summit of 1972 yielded an oversold détente and along with it agreement on a code of superpower conduct in the world that was honored by Moscow almost entirely in the breach.

Even so, examples of success can be found. Fighting in the Arab-Israeli war of 1973 was brought to an abrupt halt when Washington and Moscow co-sponsored a U.N. resolution to force the belligerents to accept a cease-fire. For years Arab gulf leaders have cited that demonstration of what can be accomplished when the superpowers work together. It supports their devout belief, they say privately, that the Iran-Iraq war could be stopped if Moscow and Washington decide to stop it.

—By Murray J. Gert/Washington



ILLUSTRATION BY JIMMY K. BROWN



"You can't quit": it was Bork's family rather than Reagan that finally persuaded the Supreme Court nominee to stay in the fight

The Road to Bork's Last Stand

How, under pressure, he changed his mind at the last minute

Robert Bork was ready to give up. After a punishing confirmation ordeal, his appointment to the U.S. Supreme Court faced near certain defeat as a majority of Senators joined the tide against him. After wearily advising Ronald Reagan and Attorney General Edwin Meese that he had little fight left in him, the judge retreated last Thursday afternoon to his judicial chambers, where he began writing an angry statement withdrawing his nomination for the job he had wanted most of his career.

Making the decision had been wrenching. Last Wednesday, the day after the Senate Judiciary Committee advised against his confirmation, Bork met with a group of die-hard Republican supporters on Capitol Hill. Of the 16 in attendance, all except Wyoming's Alan Simpson, one of Bork's most ardent backers, argued that the judge should let his nomination go to the floor. "There could be 60 votes against him," Simpson hedged. "I don't think a recorded vote like that would be good for Judge Bork."

Bork found himself buffeted by conflicting counsel from friends. Washington Lawyer Leonard Garment (who irritated Bork by presuming to act as his public spokesman) yelled at him, "If you pull out, you're a quitter!" But Irving Kristol, a conservative author, urged him to cut his losses and withdraw. Tired of the emotionally draining experience and bitter about his inevitable defeat, Bork slipped into the White House Wednesday afternoon and told the President he was inclined to bow out.

Bork was unwavering by the argument that by continuing the battle he would

force a recorded vote on the issue, thus discomforting some of the Southern Democrats who had lined up against him. "I'm not a politician," he told the President. "I don't really understand this business of making them pay a price. I've got a life to lead." Reagan assured his nominee he would understand if he decided to pull out. The following day, Bork's wife and two sons accompanied him to a meeting with Meese.

But as Bork was composing his withdrawal speech that afternoon, Simpson called. "I've been thinking it over," the Senator said. "You ought to stand up for the principle involved if you think you can do it." Bork's resolve began to weaken. Meanwhile, his family debated the decision in a law clerks' lounge across the hall. Soon after he finished talking to Simpson, they entered his chambers. "Something's bothering us," Charles Bork told his father. "You can't quit. To quit now would be to a great degree to concede the validity of the attack against you."

Bork decided they were right. He likened the situation to his role in the Saturday Night Massacre, when his first inclination was to resign after firing Special Prosecutor Archibald Cox at President Nixon's request. Instead, he decided it would be best to stay and see the crisis through. Putting aside his withdrawal statement, Bork began, with the help of his sons, to draft an eloquent explanation of his decision to fight it out.

His appearance in the White House briefing room the next day was as dramatic as any Ince-Meese and Reagan announced the Iran-*contra* arms-profit diversion. "Were the fate of Robert Bork

the only thing at stake," said the judge, his voice breaking with emotion, "I would ask the President to withdraw my nomination." But, lashing out at the aggressive drive to squash his confirmation, Bork said the appointment of judges must not be decided by "campaigns of distortion." The judge declared his nomination should be given a "full debate and final Senate decision."

Bork's statement was a stunning, defiant gesture, particularly since it occurred at the end of a week in which his chances for confirmation dissipated with dizzying speed. First the Senate Judiciary Committee voted 9 to 5 to send the nomination to the floor with a negative recommendation. All three of the panel members who were undecided when the hearings began—Republican Arlen Specter and Democrats Dennis DeConcini and Howell Heflin—voted against Bork. The parade of lawmakers announcing their intention to oppose Bork in the full Senate vote accelerated. By Friday, 53 Senators had come out against him.

The onslaught prompted a flurry of recriminations over "who lost Bork." Hard-line conservatives criticized Reagan and his aides for not anticipating the strength of the Bork opposition. They also attacked the White House's leisurely execution of its lobbying campaign for the judge. Daniel Casey, executive director of the American Conservative Union, complained that he had urged the President to swing through the South to lobby for Bork during the dog days of summer. "Instead," griped Casey, "he was sent off to Santa Barbara for 30 days to chop wood and ride horses." Iowa's Republican Senator Charles Grassley, a Reagan ally who voted for Bork on the Judiciary Committee, denounced the White House for being "asleep at the switch" last summer.

Bork's opponents, in the meantime,

Nation

"The Heifer" Takes Some Hits

As Reagan falters, Howard Baker gets the blame

were putting together a megacoalition of civil rights, women's and liberal groups for a vigorous public crusade against him. Some of the attacks involved distortions of his record and implications that he was personally biased against blacks and women. But the most significant factor in Bork's defeat was the unified and vigorous efforts of local black leaders in the South. In the 1986 campaign, Democrats regained control of the Senate mainly by winning five Southern seats. Reagan campaigned against all the Democratic candidates, four of whom won with overwhelming black support. Those Senators were reluctant to ignore the personal appeals from such important constituents.

Bork's announcement squelched much of the infighting among conservatives, who bestowed upon him the sort of kudos more commonly reserved for the Light Brigade. "Judge Bork decided to stand and fight, even though it's probably a lost cause," said Minority Leader Bob Dole. "That's what America's all about: fighting against the odds, although the odds are probably unbeatable."

Such a showdown could invigorate, at least temporarily, a presidency that has recently been creeping along like a paraplegic duck. The conciliatory approach Reagan used in pushing Bork was similar to the strategy he pursued with his ambivalent support for the Central American peace plan and his reluctant compromise on the budget. In the process, he has come close to losing on three of his most important remaining goals: securing his social agenda by shifting the Supreme Court to the right, saving the *contras* and preventing a tax increase or cuts in defense spending. The White House stands to gain only one advantage from the continuation of the Bork clash: after a bloody battle, critics may be less willing to fight the President's next nominee.

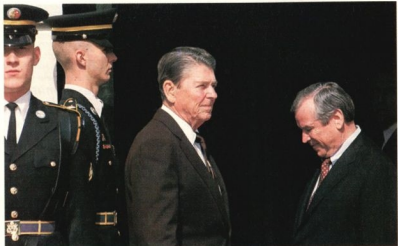
Bork is resigned to the near impossibility of his confirmation. His refusal to withdraw was a protest against the efforts to depict him as a right-wing ideologue. More important, he saw the quixotic effort as a way to defy the politicization of the confirmation process. "For the sake of the federal judiciary and the American people," declared Bork last week, "that must not happen."

His decision to prolong the battle will certainly cast a harsh spotlight on the often crass lobbying and campaign practices used against him. But it will not dampen the opposition to him—or the essentially political nature of the decision the Senate will make. While Bork may be justified in charging he has been treated unfairly, his trove of controversial opinions and statements aroused deep concerns about the type of Justice he would be. With a divided court hanging in the balance, it was almost inevitable that the resulting political passions would play a large part in the confirmation process. —*By Jacob V. Lamar Jr. Reported by David Beckwith and Barrett Seaman/Washington*

When Howard Henry Baker arrived at the White House last March, he brought with him a reputation as the great conciliator. Moderates expected his skills as a consensus builder to work legislative magic, easing Ronald Reagan into the new realities of a Democratic Congress. Conservatives feared that his instincts as a pragmatist would blur the President's ideological vision.

Baker has indeed shown that his style is one that avoids confrontation. He helped steer Reagan into a Central American "peace plan" partnership with House Speaker Jim Wright. He engineered the strategy of selling Robert Bork to Con-

Reagan to power. As his rhetoric on Bork, the budget and Central America demonstrates, he remains most comfortable when he is taking his opponents head on. As Senate majority leader, Baker successfully yinnyed to Reagan's yang in crucial legislative battles. But as Baker has unhappily discovered, the White House is very different from the Senate. Says his longtime aide James Cannon: "In the Senate, they fight with boxing gloves; in the White House, they fight with guns and knives." More important, he has had difficulty blending into an Administration heavy with ideologues to whom fighting is often more important than winning.



The great conciliator listening to the boss last week

"In the White House, they fight with guns and knives."

gress as a distinguished moderate rather than a centurion of right-wing values. And he prepared the ground for the President's reluctant compromise on a budget plan. Had such strategies proved successful, Baker's conservative critics might have forgiven him. But given the results, even some of his fans are wondering if he is the wrong man for the times.

Baker is noticeably tired these days and losing his long war against weight—aides refer to him affectionately as "The Heifer." But despite recent rumors, he is not looking for a way out of the White House. Nor is the President or Nancy, whose approval is requisite, listening to conservative calls for his ouster. Baker says he loves the job, particularly the chance to work closely with Reagan. "My greatest peril," he quips, "is that I will run out of good stories before he does." Besides swapping yarns, the two men share remarkable self-assurance and poise.

What they do not share, however, is political style. Confrontation brought

But if Howard Baker is not the best chief of staff for Ronald Reagan right now, then who is? Except for the far right, the consensus around Washington is... Howard Baker. Despite legislative setbacks, he managed the Reagan White House through its toughest period. He helped Reagan survive the Iran-*contra* affair. And he worked to keep arms-control talks with the Soviets on track.

As Reagan's political power inevitably fades, he has two choices: rallying his right-wing disciples for a few flaming defeats that will polarize the political landscape for 1988, or building the coalitions necessary to preserve his legacy. Baker's goal of carving a niche for Reagan as a national political teacher during his final year requires that the President have a secure platform from which to lecture. Baker must show that his nonconfrontational approach can produce results that will prevent the White House from becoming nothing more than a stagnant pond for lame ducks. —*By Barrett Seaman/Washington*

Trying to Set Himself Apart

Gore is his father's son but his own man



As Albert Gore Jr. pondered whether to run for President this spring, he knew that it might be both too soon and too late. At 39, the freshman Senator from Tennessee would be trying to become the youngest person to win the nomination of either party since William Jennings Bryan in 1900. Yet to achieve that distinction, Gore would have to pass six other Democrats who were already running hard.

At a family caucus at his Tudor house in suburban Arlington, Va., his four children had their say. According to notes taken by Daughter Kristin, 10, they agreed on the No. 1 negative: "Dad wouldn't be here a lot." Karenn, 14, worried about his relative obscurity compared with the front runner at that time: "It would be hard to get more publicity than Gary Hart." Gore's wife Tipper was also torn. Co-founder of the Parents' Music Resource Center, an organization that opposes rock lyrics featuring sex, violence, drugs or alcohol, she was just starting a national tour to promote her book, *Raising PG Kids in an X-Rated Society*. "Especially with me already very busy and on the road," she recalls, "I knew it would be a sacrifice for the whole family if Al ran."

There was another generation to be heard from. The day before his self-imposed deadline for a decision, Gore went to his parents' apartment on Capitol Hill. Albert Sr., 79, is a white-manned, honey-toned orator and liberal populist who, as a Senator from Tennessee from 1953 until 1971, was widely venerated for having been a progressive on civil rights and an opponent of the Viet Nam War. He was touted as a possible vice-presidential candidate in 1956 and 1960. When his father made the case for running, young Gore played a combination of Hamlet and devil's advocate, dwelling on the negatives. His mother Pauline moderated. "Dammit," said her husband afterward, "I think he's talked himself out of it." But his son telephoned the next day: "Dad, it's go." Recalls Albert Sr.: "I knocked a hole in the roof with a Comanche yell." Pauline explains, "I think my son had to establish that it would be his campaign and that he'd be doing it in his own way." Jane Eskind, an admiring fellow Tennessee Democrat, observes, "Albert Sr. sees in Al Jr. the fulfillment of his own dreams."

To realize both his father's dream and his own, Al Gore is trying to set himself starkly apart from the rest of the Democratic contenders, much to their recent fury. With the decision of Dale Bumpers, Bill Clinton and Sam Nunn to remain on the sidelines, Gore became the only Southerner in the race, a fact he

rarely fails to mention during his frequent forays through the region. When Gore is campaigning in Arkansas and Texas, his accent changes subtly as "my" becomes "mah" and "narrow" becomes "narrah." He also proclaims himself a "raging moderate," a distinction he has increasingly emphasized by challenging his opponents' dovish stands on defense and foreign policy.

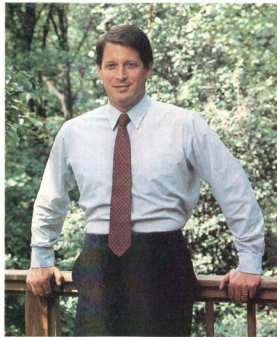
Gore's strategy is a risky one. He may have to write off the Iowa caucuses. Not only was he late in entering, but he has done little catering to the liberal activists whose zeal dominates the delegate-selection process. He may fare better in New Hampshire, where the party is more diverse and the stalwarts tend to be more conservative than in Iowa. He counts on a big win March 8, Super Tuesday, when 20 states, mostly in the South, will hold primaries and caucuses to choose 35% of the delegates. In doing so, Gore is gambling that he will not get left in the dust as the winners in Iowa and New Hampshire gain momentum.

The other risk is more personal. Gore's thoughtful positions have an intellectual appeal to party moderates, and he has impressed Washington insiders with his articulate understanding of both the issues and the system. But he must still prove that he has the grit and the common touch needed to inspire a wider appeal. He often appears to be compensating for his fresh-faced youthfulness with a formality bordering on stiffness and a cocky earnestness that sometimes seems like noblesse oblige. In his living

room there is a framed cover of *Memphis* magazine with his photograph and the headline BORN TO RUN. A number of Gore's Senate colleagues have had trouble disguising their annoyance, perhaps tinged with jealousy. "That young know-it-all takes some gettin' used to," rapped South Carolina Democrat Ernest Hollings to another Senator. "He hasn't paid his dues."

Gore tries to strike a bond with ordinary voters by proclaiming himself the "only farmer in the race." He tells stories about raising Angus cattle since he was six on his father's 250-acre farm in Carthage, Tenn.: He showed one of his heifers and won a blue ribbon at the Iowa State Fair. But he quickly adds that anyone who shakes hands with him will notice the absence of calluses: "I haven't been spending much time on tractors of late."

Or ever. Gore was born in Washington and spent much of his childhood on Embassy Row in the Fairfax Hotel, where his parents had an apartment. He fondly remembers climbing onto



A "raging moderate" hopes the center will hold for him

the roof and hurling water balloons down on the cars on Massachusetts Avenue. He was an honor student and captain of the football team at the patrician St. Alban's School. He met Tipper (a childhood nickname; her real name is Mary Elizabeth) at his St. Alban's graduation party. John Davis, who taught Gore church history, remembers him as the straightest arrow in the quiver, someone whose only evident vice was an excess of virtue: "Everybody would think, 'This can't be real!'"

At Harvard in the late '60s, Gore demonstrated against the Viet Nam War and attended Eugene McCarthy rallies. After graduating, he considered resisting the draft. His parents were supportive. "If you want to go to Canada, I'll go with you," his mother said. The dilemma was all the more acute, for Gore did not want to hurt his father's 1970 re-election fight against Republican Bill Brock, currently Secretary of Labor. In the end, he enlisted as an Army reporter, and his father went down in defeat. "The combination of Viet Nam and his dad's losing really turned Al off politics," says his mother. Returning home in 1971,

Nation

he became a reporter and editorial writer for the Nashville *Tennessean*. While working as a journalist, he enrolled at Vanderbilt, first as a theology student and then in law school.

In 1976 Gore surprised and delighted his father by suddenly announcing that he would run for Congress. The elder Gore was all set to "give my hillbilly speeches to elect my boy to Congress." But Al said, "Hold on, Dad. I want to win this one myself." Upon arriving in Washington, Gore exclaimed to a friend, Carter Eskew, "Hey, this is great! I'm still an investigative reporter. I just happen to be a member of Congress. You can get your phone calls returned, and you can actually have an influence."

He assigned himself to the medical beat, cracking down on influence peddling in the contact-lens industry, sponsoring legislation to regulate organ transplants, and pushing for tougher warnings on cigarette packs—despite a constituency that included 10,000 tobacco farmers. In 1984 he won the Senate seat of retiring Republican Howard Baker.

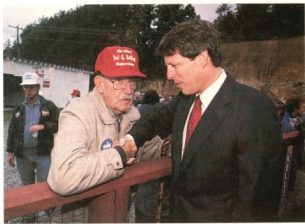
In the midst of that campaign, Gore's older sister Nancy died of cancer. "She was a terribly important part of Al's life," says Tipper. "She was a mediator, adviser, powerful supporter and loving critic." Today that role falls largely to Gore's mother Pauline. "I've been working on him to relax and smile," she says.

Gore will have to overcome a lot of what Eskew, now a Washington media consultant, calls "yuppie envy," eloquently expressed by Arkansas Democratic Activist Archie Schaffer III, 39. "I'm not sure I'm ready," he says, "for anyone my age to be close to the button."

Yet the button is a large part of why Gore thinks he should be President. In 1980 Gore asked for a show of hands at a girls' student convention in Murfreesboro, Tenn., and found that most of the young people present expected a nuclear war in their lifetime. He went back to Washington and spent eight hours a week for a year mastering the arcana of nuclear deterrence and diplomacy.

Since then he has played a key role in brokering a number of agreements between Congress and the Reagan Administration on defense policy and arms control. Gore says he is running for President now, rather than waiting until he is a bit older, largely because "Mikhail Gorbachev may be ready for a breakthrough in the way we keep the nuclear peace. The next few years could be an opportunity we won't have again."

As he campaigns around the country, he carries a gun-metal-gray garment bag with his conservative blue suits, his jogging shoes and a serious book on an unfashionably important subject about which he is busy educating himself. Sipping soda and lime on a flight to yet another fund raiser, he muses about how, as President, he might go to Brazil to warn the world of the dangers of deforestation or to Antarctica to point at the ozone hole or how he might push to include global envi-



He goes where Nunn fears to tread: campaigning in Virginia

ronmental problems on the agenda of his first summit with Gorbachev. Yet in public at this point in his campaign, Gore downplays the mega-issues. Explains Eskew: "Al has got to be careful not to become the Senator Moonbeam of 1988."

His rivals these days are depicting him as Senator Thunderbolt. Gore has supported the U.S. naval presence in the Persian Gulf, the invasion of Grenada and the bombing of Libya. He opposes the proposal by most of his opponents for a ban on missile flight tests. He says his centrist views make him more "electable" than the other five Democrats in the race, particularly Michael Dukakis, who opposes almost any use of American force abroad as well as virtually all new nuclear weapon systems.

Last week at debates in Florida and Washington, Gore stepped up his strategy of accentuating his differences, provoking his opponents to leap on him after he implied they were engaged in the "politics of retreat, complacency and doubt." Richard Gephardt accused him of "pandering to the right wing of our party." Said Paul Simon: "I don't think it helps any of us to be knifing each other." Such criticism, said Gore's campaign manager Fred Martin, is a "sign of Al's success."

Gore's strategy of combining distinctiveness and plausibility is working. James Johnson, who ran Walter Mondale's 1984 race and who so far this year is on the sidelines, says, "Gore has passed a threshold of being a credible contender." Some prominent Republicans agree. Says Bill Brock: "While following Al Sr.'s liberalism on a lot of issues, Al Jr. is able to present himself as a mainstream Democrat. He'd be a good, tough candidate in the general election." The leaderships of the Hart campaigns in New Hampshire, Illinois, Florida and Washington State have come over to the Gore camp virtually en masse. In the seven debates to date, Gore's combination of self-assurance and command of substance has helped him overcome the misgivings about his age and inch upward in the polls. He is so pleased with his performance that he has added a new line to his stump speech: if elected, he vows to challenge Gorbachev to debate ideology and foreign policy.

But before taking on the General Secretary of the Communist Party of the Soviet Union, Gore has at least 14 more debates to go with his fellow Democrats, followed by what could be a donnybrook of a convention in Atlanta. Last week he was working his way through the South, heading from there to New Hampshire. Then on to Iowa, where he hopes to find the crowds warmed up by—who else?—his father. Al Sr. has been vigorously campaigning there as a surrogate for his son. By this week he will have hit all 99 counties in the state, giving his hillbilly speeches to elect his boy to the White House. —By Strobe Talbott/Washington



A straight arrow: young Al makes his father the target in this 1954 photo

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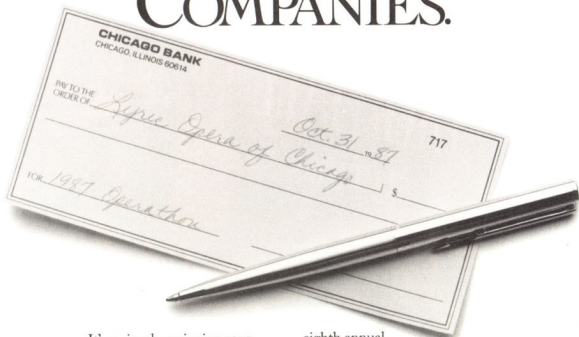


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Wild Oats

Robertson rewrites his résumé

Only one week after Televangelist Pat Robertson formally declared his presidential candidacy, he received a chilling political baptism. Press accounts disclosed that Robertson's first child had been conceived out of wedlock and that the former minister had misstated his wedding date to conceal the fact. Robertson, who has condemned sex before marriage, said he had merely tried to "protect his family" in previously suggesting that he had been married in March 1954 rather than on Aug. 27.

Robertson's first son was born ten weeks after the wedding. Robertson said that he and his wife Dede considered March 22, 1954—the candidate's birthday—their true marriage date "because our son was conceived that day." "I have never, ever indicated that in the early part of my life I didn't sow some wild oats," Robertson declared last week. "But I also said that Jesus Christ came into my life, changed my life and forgave me." The candidate's reaction to the disclosure, which first appeared in the *Wall Street Journal*, was indignant. "I think it is outrageous to intrude into a man's family in the guise of journalism."

Other discrepancies about Robertson's past have also surfaced. The campaign had claimed that the candidate did graduate study at the University of London in 1950; in fact, he took a single summer course. Several weeks ago Robertson emphatically denied ever suggesting that only Christians and Jews were fit to govern. But TIME has obtained an audiotape of a January 1985 broadcast of the *The 700 Club* in which he says exactly that. Last week Robertson waffled on his earlier denial, saying that "sometimes one missees and sometimes one forgets."

As he fielded questions about what is gospel and what is apocrypha in the life of Robertson, the candidate professed to see a political plus. "You are proving that I am a human being," he told reporters. Being human is one trait that a growing number of candidates from both parties have firmly established by now.



He forgot their anniversary



One of the murdered Buckner children is loaded into a hearse outside the family's home

Auguries of Innocence

In rural Missouri, a boy posthumously finds justice

When paramedics answered an emergency call at the farm of James and Julie Schnick in the south Missouri hamlet of Elkland (pop. 200), they found James Schnick rolling on the floor and wailing in pain from a gunshot and stab wounds. He had spotted an unknown intruder in the house and fatally stabbed him after a ferocious struggle, he told Webster County Sheriff Eugene Fraker. In the bedroom Schnick's wife lay dead, shot twice in the head. The mysterious intruder, who was sprawled dead in the hallway, a .22-cal. pistol clutched in his hand, turned out to be Kirk Buckner, Schnick's 14-year-old nephew.

Two deputies dispatched to the Buckner's dairy farm five miles away discovered an even more gruesome scene: Kirk's mother and his three younger brothers had all been killed by gunshots to the head. The body of Kirk's father lay by the side of a gravel road, midway between the two farms.

Sheriff Fraker, along with others in the area, assumed that the family's dire economic circumstances had pushed Kirk over the edge. It seemed to be yet one more tragic testament to the desperation of so many of the country's debt-burdened family farmers. Said the Rev. Wilburn Steward at a funeral service for the slain family attended by more than 500: "In mankind, there's a breaking point. Something in Kirk had reached that point, and he just snapped."

But for many of the Buckners' friends the explanation just didn't ring true. They knew Kirk as a good-natured teen, devoted to his family, who seemed incapable of such cold-blooded violence. "I'd seen

him with his brothers and how he loved his mother," says Neighbor Mary Shoemaker. Her son Billy, 15, was a close friend of Kirk's and once saved him from drowning. "I never thought Kirk did it," he says.

Haunted by his own suspicions, Sheriff Fraker began to probe a bit more. He called in Sergeant Tom Martin, a friend with the Missouri Highway Patrol. The two reviewed the evidence and discovered several curious discrepancies. How could Kirk, who weighed only 130 lbs., have moved his 250-lb. father so far from their farmhouse? Schnick's wounds, it turned out, were superficial. Although Schnick claimed he had attacked the boy only with a steak knife, an autopsy revealed that Kirk may have died from a gunshot. Then, at the high school where Kirk had just begun his freshman year, Fraker and Martin learned of a shattering piece of evidence: Kirk Buckner was lefthanded. The murder weapon had been found in his right hand.

Last week, as Schnick was about to undergo a lie-detector test, he broke down and confessed that he had committed the murders and tried to frame his dead nephew. Appearing in court wearing bib overalls and a white T shirt, he was charged with seven counts of first-degree murder. Though authorities suspect that Schnick may have killed to benefit from wills and insurance policies, Sheriff Fraker still feels there is some mystery involved. "I don't know what was in the man's mind," he says. "There's always a possibility we'll never know."

—By Laurence Zuckerman
Reported by Staci D. Kramer/St. Louis



Schnick: a frame-up

America's First Renaissance Woman

Clare Boothe Luce: 1903-1987

"A great man is one sentence," Clare Boothe Luce was fond of pronouncing. "History has no time for more than one sentence, and it is always a sentence that has an active verb." In her own life, however, Luce insistently defied her own prescription, as she did so many assumptions. Too successful and too driven ever to confine herself to a single sentence, she completed an entire paragraph, baroque with ornamental periods, bristling with active verbs and packed with household names.

For more than a half-century, Luce was on whispering terms with history, the friend of Winston Churchill and Chiang Kai-shek, the wife of America's most prominent publishing tycoon, the acquaintance of every President from Herbert Hoover to Ronald Reagan. Yet even as she was winning over great men, she was overturning the very notion of the "great man" by storming all the old boys' clubs of power without ever relinquishing her femininity. In the space of 20 years, while presiding as the darling of the society columns, she was managing editor of a national magazine, successful Broadway playwright, war correspondent, Congresswoman and ambassador.

In a sense, the only thing against Luce was her ability to play many roles and break all the rules, as a woman conquering what was primarily a man's world. As one of the first great career women in American history, Luce found herself alternately patronized by those who saw her only as a woman and anathematized by those who saw only her career. For some, she was too elegant to be intelligent, for others too sharp-witted to be ladylike. An early feminist whose most famous play showed women at their cattiest, a formidable grande dame of high society who was one of its most caustic satirists, Luce made a career of eluding categories.

And of cultivating enemies. Because she switched hats so often, she was accused of changing her tastes with the seasons. Because she was so tireless and acid-tongued an evangelist for her opinions, and because her opinions were so fierce—especially a longtime hatred of Communism and an unswerving devotion to the Catholicism to which she converted in

mid-life—she presented an irresistible target to her adversaries. And because she had the misfortune of being on easy terms with glamour as well as with success, she was sometimes accused of manipulating men, sometimes of being manipulated by them. While admirers gushed over her rare blend of cleverness and charm, detractors focused only on her deployment of those strengths. The ambiguous effect of being accosted by the demure whirlwind was, said one newspaper, like "being dynamited by angel cake."

her origins. Her mother was a former chorus girl, her father a violinist who deserted his family when his daughter was nine. Before long, however, Clare Boothe was decorating her résumé. In 1913 she was Mary Pickford's understudy in a play titled *A Good Little Devil*; by eleven she had written a play of her own; and at 16 she had run away from home to work in a factory making paper favors. When her mother remarried, she began to enjoy her first taste of society and was soon zestfully embracing all the paradoxes of getting ahead as a woman: at 18 she was working for the feminist cause, including distributing pamphlets urging women to "make themselves heard," while just two years later she was accepting a convenient marriage to George Tuttle Brokaw, an unstable millionaire 23 years her senior who was, by her own characteristic admission, a "bore."

By the time she divorced Brokaw, after six years of marriage, she was assured of a handsome settlement to help her take on the world. That she promptly did. At a dinner party in 1929, she asked her host, Publishing Magnate Condé Nast, for a job. He, taking her for a social butterfly, refused. She, unwilling to take no for an answer, simply went to the offices of his main magazine, *Vogue*, sat down at an unoccupied desk and announced that she was ready to start work writing captions. Within four years she was managing editor of Nast's *Vanity Fair*, a magazine that she shaped in her own smart and irreverent image, at once reveling in the emperor's latest fashions and revealing them for what they really were.



Editor, playwright, war correspondent, Congresswoman, ambassador
She broke the rules, played the roles and conquered a man's world.

When Clare Boothe Luce died last week in Washington at the age of 84, the country lost the pre-eminent Renaissance woman of the century, a pioneer who had shown once and for all that "self-made woman" need not be a contradiction in terms. If greatness, as she once said to Churchill, means "to see, to say, to serve," some measure of it surely belonged to so shrewd an observer, so pungent a speaker and so versatile a public servant.

The trajectory of Luce's career was especially dramatic given the modesty of

Having mastered that world, she turned her attentions to another. In 1934 she was introduced to Henry Luce, a missionary's son who was the co-founder and editor in chief of Time Inc. She introduced him to an idea she had dreamed up, a glossy picture magazine to be known as *LIFE*. Just two days before their wedding, in November 1935, her first play, *Abide with Me*, opened on Broadway. In a review rewritten by the editor in chief and the playwright herself, the play was panned in *TIME* for its "tedious psychiatry." It closed after only 36 performances.

Her next play fared better: *The Wom-*



The career woman in 1944; dismissing Democrats at the 1948 Republican National Convention; on a pleasure trip to Spain with Husband Henry in 1952



en, a pitiless satire featuring 35 characters, all of them women and most of them harpies, sniping, gossiping and philandering their way through the beauty salons and the drawing rooms of Park Avenue. A showcase for its author's diamond-sharp barbs and her wicked wit ("a frozen asset" is how a virgin describes herself in the play), it opened in December 1936, ran for more than 600 performances and was soon turned into a popular movie. Having proved herself on that front, Luce took off again, this time to tour the world and cover the war for LIFE.

Sometime during those turbulent years, it occurred to Luce that her gift for strong opinions and withering bons mots might actually be best suited to another stage, and in 1942 she was elected Connecticut's first Congresswoman. Inevitably, those last two syllables dogged her in the largely all-male preserve of Washington, and her attempts to be taken seriously were not assisted by a typical poll that crowned her "the second best pair of legs in the country."

Luce was not one to take such condescension calmly. Immovable in her beliefs and intrepid in expressing them, she quickly established herself as one of the most implacable foes of the New Deal and especially of any and all appeasement of the Soviet Union. When Vice President Henry Wallace suggested a postwar policy of opening the skies to every plane, Luce dubbed his brainchild "globaloney." As for F.D.R., she said, he had "tied us into a war into which he should have led us." Small wonder, then, that hers was one of the most hotly contested seats in the country when she sought, and won, re-election in 1944.

In part because of the death in a car accident of her only child Ann at the age of 19, she turned toward Catholicism and decided in 1946 not to run for re-election. Needless to say, a Luce retirement was hardly a rest: the years that followed found her explaining her conversion in a series of articles titled "The Real Rea-

son"; memorably denouncing the Democrats as a speaker at the 1948 Republican National Convention; receiving an Oscar nomination in 1949 for her original story for the gentle comedy *Come to the Stable*, about two nuns setting up a hospital for children; and, in 1952, making 47 separate radio and TV appearances on behalf of Dwight Eisenhower. A 1953 Gallup poll showed that she was, after Eleanor Roosevelt, Queen Elizabeth II and Mamie Eisenhower, the most admired woman in the world.

That same year, she returned to the public stage as Washington's emissary to Italy, the first American woman to be named ambassador to a major power. As usual, Luce made a spectacular entrance and exit: in her first major speech, just a couple of weeks before the Italian general election, she broke nearly every unwritten rule by eschewing diplomatic platitudes in favor of a pointed warning about the "grave consequences" for voters if they became "unhappy victims of totalitarianism of the right or of the left." Four years later, she resigned for reasons of health: dust laced with lead arsenate had been flaking off the painted ceiling of her bedroom, gradually poisoning her.

As usual, the dramatic gestures and splashy headlines (ARSENIC AND OLD LUCE) obscured many of her more significant achievements in Rome. By the time she left, Luce had played an important role in persuading Italian businessmen to fight Communist labor domination; had helped resolve a decades-old dispute with the signing by Italy and Yugoslavia of the Trieste settlement in 1954; and had seen Italy join the United Nations. Luce's predecessor had been recognized by exactly 2% of the Italian population; "La Luce" was known to 50%.

Although her departure from Rome marked the end of Luce's official roles, she was not offstage for long. In the years that followed, the irrepressible campaigner mastered scuba diving, took up paint-

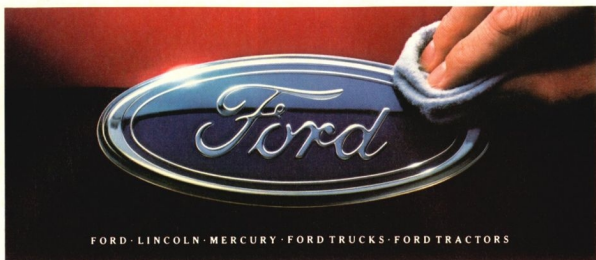
ing and constantly peppered the press with salty jeremiads. After her husband died in 1967, she pursued her interests as energetically as ever. In 1971 she dusted off a couple of past incarnations with a new play, *Slam the Door Softly*, that was characteristically full of tart one-liners ("I don't want alimony; I want severance pay"). A year later she held a reception for President Richard Nixon at her oceanfront estate in Honolulu before he met with Prime Minister Kakuei Tanaka of Japan. Luce held no position, official or otherwise, with the magazines her late husband founded, but she did not hesitate to let their editors know when she disagreed with them. In 1974, rallying behind an embattled Nixon, she castigated TIME in an unusually stinging letter that denounced its "editorial overinvestment in the destruction of the President."

When the Republicans returned to Washington in 1981 after a four-year hiatus, so too did Luce, resuming her position on the President's Foreign Intelligence Advisory Board. Throughout her last years, the elder stateswoman held court among young Republicans as a kind of inspirational eminence, an unmistakable figure at every conservative function, silver-haired, bright-eyed, dripping pearls and epigrams. Of all the laurels bestowed upon her in recent years, perhaps the most fitting was the Sylvanus Thayer Award, West Point's highest civilian honor, given to those who best embody the academy's motto of "Duty, Honor, Country."

In her final years Luce often seemed to miss the battles that had engaged her for so long, and she frequently bemoaned the fact that she had outlived all her "warm personal enemies." In a sense, what she was really lamenting was that she had, in the end, outlasted controversy. By the time of her death last week, it no longer seemed quite so remarkable that one woman could occupy so many and such different seats of power. That, perhaps, was the greatest of all the sentences that Clare Boothe Luce left to history.

—By Pico Iyer

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American Notes



Everglades: Chief Billie wants his panther



Taxes: the Reagan ranch will not be auctioned



New York: Capasso and Myerson

THE EVERGLADES

Happy Hunting, Chief

On a dark night in the Florida Everglades four years ago, a Seminole Indian chief named James Billie shot a large wild cat, then ate the meat and kept the hide. He would have been better off if his aim had been bad. State and federal authorities said the cat was a Florida panther, protected under endangered-species laws. Since then Billie has been fighting to stay out of jail, claiming he was unaware he had shot a rare animal.

The chief has finally succeeded. Last week federal charges were dropped, and a Florida jury acquitted him outright. But Billie has requested one more court appearance. The cat's hide and skull were seized as evidence, and Billie wants them back.

CAMPAIGNS

Jesse the Pitchman

"I want you to be somebody, and you can if you try. . . . Pick up that phone and call now!" So exhorted the smiling face in the newspaper ad for a nationwide chain of vocational schools. Rarely has such an ordinary pitch received so much attention, but then this was no ordinary pitchman: it was

Presidential Hopeful Jesse Jackson. The message, self-improvement through education, was vintage Jackson. The medium was a blitz of commercial advertisements for which Jackson was to receive an undisclosed payment.

No sooner had the first of the advertisements run in the New York *Daily News* than Jackson found himself in the midst of a controversy. He may be the only candidate for the White House to have appeared in paid commercials for a private business. By week's end Jackson conceded that no matter how much the message was like that of his own Operation Push, it was time for Operation Pull Out, and he dropped the commercials.

TAXES

Setting a Bad Example

Could it be? The IRS computer said so: a federal tax lien against Ronald Reagan. What to do? Audit the President? Attach his wages? Put the Reagan ranch on the auction block? Truth is, the First Taxpayer was never delinquent, simply the victim of an errant computer entry made last July.

An IRS instructor in Texas had used the Reagan name in a demonstration of the agency's electronic lien system. Later a trainee tapped the information into the computer system, creating a record that the Presi-

dent was a deadbeat. The mistake was caught and—need it be said?—quickly corrected. The instructor now knows why the IRS doesn't want real names used in pedagogical examples. A sheepish IRS spokesman said no one at the agency "had any intention of creating any sort of difficulty." Never has the IRS sounded so conciliatory.

NEW YORK

Some Mess, Bess

Bonny Bess Myerson, beauty from the Bronx, seemed to have everything—a Miss America crown (1945), big money and political clout. But last April she resigned her \$83,000-a-year job as New York City's commissioner of cultural affairs because of what the papers called the "Bess mess." Her romance with contractor Carl Capasso was a family-wrecking affair, upended when Capasso ran into the tax trouble that got him a four-year prison term. Worse still were charges that in 1983 Myerson gave a \$19,000 job to the daughter of State Supreme Court Justice Hortense Gabel in order to induce the judge to reduce Capasso's alimony and child-support payments. Last week a federal grand jury indicted Myerson, Gabel and Capasso on counts of conspiracy, mail fraud and bribery. Myerson, 63, who was also

charged with obstruction of justice, could receive 30 years and fines of \$513,000. Capasso, 45, and Gabel, 74, could each face a 25-year term and \$263,000 in fines.

FLORIDA

Goodbye, "Gunshine"

If Floridians felt a cool breeze last week, it might have been the entire state breathing a collective sigh of relief. The legislature voted unanimously to close a legal loophole that allowed anyone to carry a gun—"pack a piece," in the parlance of *Miami Vice*—so long as it was visible.

A new gun law that went into effect Oct. 1 liberalized requirements for owning and carrying a concealed weapon, but inadvertently erased a ban on openly carrying sidearms. Many residents feared that Miami, already saddled with one of the nation's highest homicide rates, would become the Dodge City of the Sunbelt. Some shop owners posted signs warning DON'T CARRY YOUR GUNS IN HERE. Police expressed concern, and the tourist industry faced a hurricane of bad publicity; editorial cartoonists dubbed Florida the "Gunshine State." Said one state representative after the loophole was closed: "I think we've taken the first step to restoring sanity to our streets."

World

CHINA

Fire in a Snowy Land

Tibet erupts in pro-independence rioting, and its exiled ruler urges more protest

"A spark has been set off. It is like a symptom of a disease. What has happened is due to the disaffection and suffering in Tibet. These things happened, and so the Chinese found a person to blame. They needed a scapegoat."

For more than a fortnight, his homeland had been torn by violent protest against its Chinese occupiers.

Now, from his place of exile in Dharmasala, the Himalayan hill town in northern India where he has lived for most of the past 28 years, the Dalai Lama spoke. The spiritual leader of Tibetan Buddhism sought to explain the rioting that had rocked Lhasa, the Tibetan capital, on the other side of the Himalayas, and the harshness of the Chinese response. Inevitably, Peking blamed the Dalai Lama, 52, for instigating the demonstrations that inflamed his people both at home and in exile.

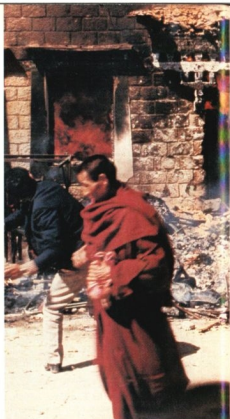
What sparked the flame in the so-called land of snows? It could have been the execution of two Tibetan nationalists by Chinese authorities in late September.

Or perhaps it was the Dalai Lama's recent visit to the U.S., where he called for a withdrawal of Chinese forces from Tibet, as well as a greater degree of autonomy for his mountain realm. Late last month, in any case, 27 saffron-robed Tibetan monks were arrested for taking part in an anti-Chinese demonstration outside Lhasa's Jokhang Temple. Four days later a mob of 2,000 Tibetans gathered in central Lhasa, set fire to a police station and stoned the fire fighters who tried to put out the blaze. In the ensuing battle, at least eight Tibetans and six Chinese police were reported killed. Though the number of victims was relatively small, the rioting was the first in Lhasa in a decade and some of the worst since the Chinese crushed a widespread revolt in 1959, an event that led directly to the Dalai Lama's flight into exile.

The Reagan Administration, determined to encourage China to continue on its path of liberalization, backed Peking. After all, the State Department noted, the U.S. has recognized Chinese sovereignty over Tibet since the 1940s and in recent years has held that the Dalai Lama is purely a religious leader and not the head of a government in exile. At the same time, however, the U.S. Senate voted 98 to 0 to condemn China for its actions in Tibet. Moreover, the Senate decided that future sales of defense matériel to China should be contingent on assurances by the President of progress on human rights issues in Tibet. The Peking government, angered by the Senate action, accused the U.S. of interfering in China's affairs.

The trouble in Lhasa could hardly have come at a more awkward time for the Chinese leadership. Later this month the policies of Party Leader Deng Xiaoping will be reviewed at the 13th Congress of the Chinese Communist Party. Inevitably, the rioting in Tibet will strengthen the hand of critics who oppose Deng's liberalization efforts and believe the country has moved too quickly toward reform.

Partly for this reason, the Chinese



Demonstrating against 37 years of rule by Peking:

cracked down on the unrest in Lhasa as quickly as they could, though they were somewhat inhibited by the presence of Western tourists. Early last week 35 Chinese police occupied the third floor of the Jokhang Temple. Loudspeakers ordered Tibetans not to engage in further protests. On Tuesday scores of monks were reportedly beaten with clubs and rifle butts after they attempted to stage a peaceful demonstration. On Wednesday, the 37th anniversary of the Chinese military takeover of Tibet, a 20-truck convoy carrying more than 300 policemen was seen in the streets of Lhasa. The show of power was effective: the city remained calm that day.

So far, more than 600 Tibetans have been rounded up by Chinese police. Every night authorities set up roadblocks at key intersections in Lhasa and check the identity papers of local travelers. During the day sound trucks patrol the streets, blaring propaganda messages against the protesters. On Friday a water truck hosed down the square in front of Jokhang Temple, breaking up knots of bystanders. Plainclothes police, walkie-talkies in hand, watched the scene from the roof of the temple, while two carloads of security officers stared at passersby. The mood was expectant, as if both sides were nervously awaiting the next chapter.

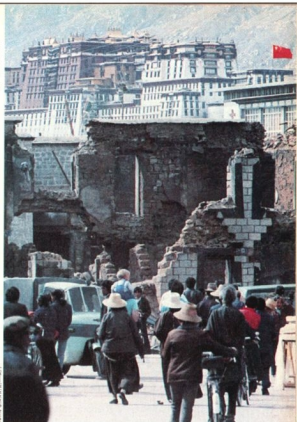
Later that day the government announced that all travelers, except those in tour groups, would be required to leave Tibet within seven days. Fifteen Western correspondents in Lhasa were expelled on 48 hours' notice, supposedly because they had failed to observe some of the govern-



TIME Map by Paul J. Pappano



rioters hurl rocks by a police station in the capital city of Lhasa



Aftermath: the station's ruins in front of Potala Palace

ment's regulations for journalists. When correspondents asked Yu Wuzhen, director of Tibet's foreign affairs office, why he had allowed himself to be interviewed by some of them a few days earlier if he felt they were operating improperly in Lhasa, Yu replied, "That's our business."

Tibet poses a serious dilemma for the Chinese. Though they object to being characterized as an imperial or colonial power, they cling to Tibet, keeping some 200,000 troops there. More than twice the size of France and almost completely surrounded by mountains, Tibet is in effect a gigantic fortress that protects China from India. If the Chinese ever withdrew from Tibet, it might eventually prove irresistible to India or the Soviet Union.

After the Chinese invaded Tibet in 1950, they began a ruthless drive to dismantle the territory's ancient political and economic system, a form of feudal theocracy under which the arable land was owned by monasteries or nobles and the peasants were, at best, serfs. Nonetheless, the resistance to Chinese rule did not disappear; the people cling to their religious beliefs and remained loyal to the Dalai Lama. Meanwhile, the Chinese attempted to organize Tibet's goat and yak herders into collectives. They compelled farmers to raise grains other than the traditional barley but learned from bitter experience that some of these new crops were poorly suited to vast stretches of 15,000-ft.-high plateaus. Large numbers of Tibetans died in work camps. Thousands of monasteries

were destroyed, particularly during China's Cultural Revolution of 1966-1976.

Seven years ago Hu Yaobang, the Chinese party leader, publicly apologized for his country's treatment of Tibet. The Chinese then began to build hospitals, schools and housing projects. They encouraged Chinese workers to move to Tibet, offering double pay, special grants and new apartments. According to Peking government statistics, the present population of Tibet is about 2 million, including 73,000 ethnic Chinese. Tibetan exile groups claim that the actual figures are far larger and that the indigenous population is being overwhelmed by the Chinese.

Tibet remains woefully underdevel-

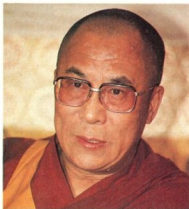
oped, even by Chinese standards. Per capita annual income is about \$110, less than half the average for China as a whole. The illiteracy rate is 70%, and the life expectancy of the average Tibetan is about 20 years less than that of the average Chinese.

Having long since recognized the Tibetans' stubborn resistance to change, the Chinese have tried repeatedly to talk the Dalai Lama into coming home on the theory that his presence would make the territory easier to control. So it might, but negotiations have broken down again and again over the Buddhist leader's demands for more regional autonomy, withdrawal of Chinese forces and recognition of his temporal authority.

At his press conference in Dharmasala last week, the Dalai Lama was cautious in his assessment of the present situation. He gave his blessing to civil disobedience but condemned violence. He refused to call for Tibetan independence, even though he has often done so in the past. He said he did not want to discourage his people, but neither did he want to sever his direct links with the Chinese. Said he: "My mind is open."

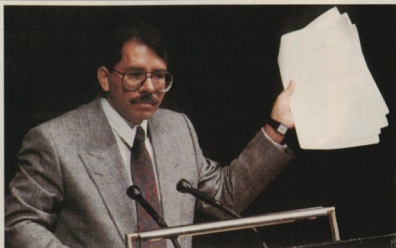
Even those gentle comments, as it turned out, were too much for his Indian hosts. At week's end officials in New Delhi reminded the Dalai Lama that, under the terms of the government's hospitality, he should continue to avoid all forms of political activity. Though he remains a god-king to his increasingly restive people, in exile he can be an occasionally embarrassing guest.

—By William E. Smith,
Reported by Robert T. Griesbach/Lhasa and
K.K. Sharma/Dharmasala



The Dalai Lama with reporters in Dharmasala
Still a god-king to his followers.

World



Rhetorical flourish: Ortega waving Central American peace plan at the U.N.

CENTRAL AMERICA

Captain Ahab vs. Moby Dick

Reagan throws yet another harpoon at Managua

It is not true that Ronald Reagan and Daniel Ortega Saavedra have nothing in common. Both hold passionate beliefs. They just happen to believe exactly opposite things, as two emotional speeches demonstrated anew last week. "I make a solemn vow," Reagan promised at an Organization of American States (OAS) meeting in Washington. "As long as there is breath in this body, I will speak and work, strive and struggle for the cause of the Nicaraguan freedom fighters." Specifically, Reagan pledged, he will fight for \$270 million in renewed military and humanitarian aid to the *contras* to enable them to continue battling the Sandinista regime. The next day, in a speech to the United Nations General Assembly, the Nicaraguan leader ridiculed Reagan's talk. "President Reagan posed as a great judge of the peoples of the world," said Ortega. "Who gave him such power?"

Despite his confident tone, Reagan will find it difficult to deliver on his word. So long as Central Americans continue trying to find compromise solutions to the region's guerrilla wars, his chances of persuading Capitol Hill to vote more arms for the *contras* are virtually zero. Said House Speaker Jim Wright: "I really don't believe there is any disposition in Congress to pass military money at the time when we are negotiating for peace."

At most, the legislators might authorize continued humanitarian aid (food, clothing, medical supplies), and that might enable the *contras* to stay in the field as an organized force. Though supporters of the *contras* argue that only the prospect of continued fighting will keep the Sandinistas at the bargaining table, Wright and his colleagues seemed intent on doing nothing that would jeopardize the Central American peace process.

The search for peace continued last week. In El Salvador, President José Napoleón Duarte met with representatives of Marxist-led guerrillas; they failed to sign a cease-fire but agreed to keep talking. More surprising, negotiators for the Guatemalan government and leftist rebels conferred in Madrid. They issued a terse statement claiming, "Both sides consider that the climate of the talks was satisfactory." That was the first hint that either side might be willing to settle a brutal guerrilla war that has claimed 30,000 lives in the past 16 years.

In Nicaragua, the Sandinistas declared a unilateral cease-fire in three regions and pulled their troops out of those areas—a mostly symbolic move, since the Sandinistas exercised next to no control there. In Managua, Ortega opened discussions with unarmed opposition groups across the political spectrum. These moves are called for in the pact signed by five Central American Presidents, including Ortega, in early August. Under that agreement, cease-fires are to take effect in all countries by Nov. 5, foreign aid to guerrilla movements must cease, and the rebels are to be offered a peaceful role in the political life of newly democratized regimes. Though everlasting peace is not likely to descend on Central America come Nov. 6, the various initiatives will probably show enough progress to strengthen congressional resolve not to resume military aid to the *contras* that expired Sept. 30.

That would greatly endanger Reagan's strategy, which depends almost entirely on maintaining the guerrillas as a force capable of exerting pressure on the Sandinistas. The *contras*, Reagan implied in his OAS speech, are needed as "insurance" against Sandinista backsliding from the small democratic reforms that they have already instituted, including reopening the newspaper *La Prensa*.

Reagan ticked off conditions that Nicaragua must meet before Washington could encourage the *contras* to lay down their arms: complete freedom of the press and of worship; freedom for all shades of opposition to organize and run for office; liberty for all political prisoners. These demands go well beyond conditions the U.S. has tried to press on any other nation. Republican Senator Bob Packwood of Oregon observed that Reagan's requirement "isn't a standard we apply to Albania or China"—nations with which the U.S. nevertheless does business. Says Wayne Smith, a former U.S. diplomat and sharp critic of the Administration: "The Sandinistas are Reagan's Moby Dick, and he is their Captain Ahab."

For all his derisive words last week, Ortega repeatedly offered to open direct negotiations with the U.S. Some State Department officials believe Reagan should take him up on it. They think that with Nicaragua under pressure to carry out the peace plan and get Washington to call off the *contra* war, the U.S. could strike a deal for reduction of Soviet aid and Cuban military advisers to Nicaragua, as well as other steps guaranteeing that Nicaragua will not become the Soviet-Cuban military base that Reagan fears.

But the Administration insists Ortega must negotiate not with Washington but with the *contras*. Ortega just as adamantly refuses to meet with the *contras*' political leaders; the furthest he will go at the moment is to offer to discuss cease-fire terms and amnesty with *contra* military commanders in the field.

The worst outcome for the U.S. in Nicaragua would be that the *contras* would withdraw away from more and more rebels accepted a Sandinista amnesty, and that the Sandinistas would then repeal the few steps they have taken toward democracy. The U.S. would thus be left to deal with a Marxist dictatorship that had cemented itself in power. That is a real danger that by proposing military aid to the *contras*, which Congress is almost certain to refuse, and by holding out for pure democracy in Nicaragua, Reagan will isolate the U.S. from peace negotiations that are likely to go forward—with or without Washington. That in turn could increase the prospect of the worst-case scenario coming true.

—By George J. Church.
Reported by John Borrell/San Salvador and Barrett Seaman/Washington



El Salvador's Duarte

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NORTHWEST

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World

DOMINICAN REPUBLIC

Horror off Death's Head Beach

Illegal immigrants meet a gruesome end as their boat sinks

Hearing the sound of a small plane overhead, some of the 15 to 20 swimmers in the open sea 20 miles off the Dominican Republic gestured frantically for help. The plane was unable to put down on water, however, and its occupants could only look on in helpless horror at the scene unfolding beneath them. The swimmers, passengers on a sinking people-smuggling ship bound for Puerto Rico, were under siege by dozens of sharks. "In one instance we saw a shark literally throw someone in the air and then attack the person," recalled one of the witnesses, Eugenio Cabral, the Dominican Republic's director of civil defense. "It was just unbearable not being able to do anything for them." As more of the swimmers were devoured, the blue waters around them turned red.

The victims of the carnage were among some 150 Dominicans, mostly young women, who had paid up to \$600 each for illegal passage to Puerto Rico aboard a 50-ft. wooden fishing boat. The group had set out at 2 a.m. Tuesday from Death's Head Beach in the town of Nagua, about 110 miles north of the capital of Santo Domingo. The ship was only four miles out to sea when, according to some survivors, its two outboard motors exploded. Since most of those aboard were unable to swim, many probably drowned within a few minutes of the accident. But others, either swimming or clinging to hastily emptied floating gasoline containers, tried to reach shore.

A few made it. At 9 a.m. a man identified only as Rubio staggered ashore in Nagua and provided the first word of the tragedy. Others drifted with the current as far as 20 miles out to sea and into shark-filled waters. Some of the victims might have been saved had prompt measures been taken after Rubio's alert. Yet military authorities, complained Civil Defense Director Cabral, did not respond to his call for rescue helicopters. In a desperate effort to locate the survivors himself, he commandeered a private plane, from which he watched the sickening scene. Said Cabral: "If we had helicopters, we could have pulled some of those people out of the water. Instead, all we could do was watch as the sharks attacked them."

Besides Rubio, at least 20 other passengers were known to have reached shore. Still others may have made it to

safety unnoticed. But Cabral estimates that as many as 70 of the shipwreck victims drowned or were eaten by sharks. Given the heavy volume of illegal Dominican immigration to Puerto Rico, a tragedy was almost inevitable. Indeed, hundreds of inhabitants of the impoverished Caribbean nation have perished on the dangerous 90-mile journey across the Mona Passage between the two islands. Most of the dead are victims of fierce tropical storms or unscrupulous sea captains who take their passengers' money only to throw them overboard or leave them on deserted islands to starve. De-



Sickening scene: Nagua residents view the body of a shipwreck victim

"It was unbearable not being able to do anything for them."

spite the odds, some 150,000 Dominicans have managed in the past few years to make it to Puerto Rico.

In an effort to stem that influx, the U.S. Border Patrol last week opened its first station outside the continental U.S. The office, located at the old Ramey Air Force Base on the west coast of Puerto Rico, will be staffed by 15 officers and equipped with two Boston Whalers and a twin-engine plane. Depending on future patterns of illegal immigration traffic, the Border Patrol may open as many as three other stations on the Puerto Rican coast.

Organized smuggling rings control much of the illegal-alien traffic into Puerto Rico. They do an especially brisk business with Dominicans, many of whom sell all their belongings for a chance to get to U.S. soil. While some Dominicans land in Puerto Rico, others travel to the continental U.S., especially New York City. The

going rate for a no-frills, no-guarantees trip across the Mona Passage is as high as \$1,000. More deluxe trips, complete with falsified documents and a truck ride to San Juan, can cost thousands of dollars.

New smugglers have begun to operate from the French-Dutch island of St. Martin, which Dominicans can enter unhindered, for trips to the less congested east coast of Puerto Rico. Luis Monge, head of the Immigration and Naturalization Service's antismuggling unit in San Juan, has targeted at least seven organizations that ship some 250 aliens to Puerto Rico a month. He claims that one man, Ramon Emilio Santana Camacho, is responsible for transporting some 30,000 Dominicans to Puerto Rico and New York since 1976. Although authorities have largely dismantled his far-flung empire, Camacho, who is something of a folk hero in the Dominican Republic, remains free and, according to Monge, is diversifying his operations into cocaine smuggling.

The Dominican exodus has grown along with the country's economic troubles. A huge foreign debt, high inflation and a 30% unemployment rate make it nearly impossible for people to make a living at home. Cutbacks in the U.S. sugar quota last year crippled the chief export industry and displaced thousands of agricultural workers. The refugee flight serves as an escape valve for social discontent, as well as a source of foreign earnings: the emigrants send home an estimated \$280 million each year. Concedes Andres Moreta Damiron, the Dominican consul in San Juan: "Our government needs this injection of money."

The results are less positive for Puerto Rico. The island already suffers a 16% unemployment rate. Dominicans, many of whom will work for far less than the U.S. minimum wage of \$3.35 an hour, are further undercutting Puerto Ricans in the job market. For Dominicans accustomed to making an average of \$85 a month, Puerto Rico is a relative paradise. Many of the male newcomers work as mechanics or construction laborers. The women typically find jobs as housekeepers or cooks at open-air food stands, positions that Puerto Ricans tend to shun. Though the Dominican economy may benefit from such emigration, officials in Santo Domingo discourage citizens from making the perilous trip. Toward that end, they announced plans for a television commercial featuring photos of the blood-stained waters holding the bodies of those who died last week trying to make it to Puerto Rico.

—By William R. Doerner.
Reported by Cristina Garcia/San Juan and Ana Martinez/Santo Domingo

World

HAITI

A Rumbling in the Belly of the Beast

Elections loom, but poverty and violence continue to reign in a land where hope once blossomed

No one stays out late anymore. By 10:30 p.m., even on Fridays, the streets of Port-au-Prince are empty. That is when the shooting begins. In the fancy neighborhoods on the hill and in the slums down by the water, armed men, often in uniform, sometimes in civilian clothes, break into houses, beat the residents, ransack the premises. They steal whatever suits them. No one really knows who they are, what they are looking for. But almost every morning, someone finds a fresh body lying on the street, a bullet through the head. The violence is making everyone wary of men in olive green.

When Jean-Claude ("Baby Doc") Duvalier fled Haiti early last year, jubilant crowds danced in the streets and chants of "Liberty!" filled the air. Duvalier's departure ended 28 years of totalitarian rule and brought hope to Haitians that the military, which helped bring down the dictator, would cooperate in rebuilding their impoverished country. Today, however, despair and confusion once again grip Haiti. The three-man provisional government headed by Lieut. General Henri Namphy is worse than ineffectual; the elections scheduled for next month threaten to turn into a sham; and the forces of order, as in Duvalier's days, continue to terrorize the people.

In his 1966 novel *The Comedians*, Graham Greene described a similar time in Haiti: "No one dared move on the roads at night; it was the hour when only the zombies worked, or else the Tonton Macoutes." That infamous paramilitary force of Dr. François ("Papa Doc") Duvalier and his son Baby Doc was disbanded by decree after Jean-Claude fell from power last year, but in spite of repeated promises, it was never disarmed. The provisional government has prosecuted only a few of the most notorious thugs. "It isn't easy to get rid of something as basic as the Macoutes," says Aubelin Jolicoeur, a Haitian journalist and former gossip columnist. The recent rampages have a signature style that has led many Haitians to suspect that elements of the Macoutes are involved: the late-night assaults, the beatings of entire families, the arbitrariness, the brutality.

But then, there are the olive-green uniforms, a disturbing sign of army complicity in the murderous attacks. The rule of law is nonexistent. In August, Louis Eugène Athis, one of seven major presi-

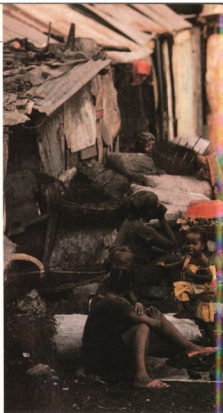
dential candidates, was killed along with two campaign workers by a machete-wielding crowd in a small town south of the capital. In the northwest at least 200 peasants from a land-reform collective were massacred in July by vigilantes believed to be in league with a few large landholders in the area.

With the countryside in a state of undeclared civil war, an umbrella opposition coalition called the Group of 57 organized numerous national strikes and demonstrations. The aim of the protests, they said, was to dislodge or reform a government that has repeatedly violated Haiti's new constitution. At the height of the protests this summer, the day was rare when the ramshackle boulevards of Port-au-Prince were not blocked by barriers of flaming tires. Each day, as the sun slipped in the sky and the air grew cooler, bands of boys played soccer around the debris. By evening, the thick black smoke enveloped the city. The sunsets were brown.

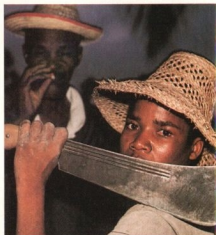
The summer's violence has continued into the fall. The army recently occupied Raboteau, a large shantytown in the city of Gonaïves. They arrested, detained and beat several people and terrorized Raboteau residents. Recently, Haitians in the countryside, fed up with army abuses and the lack of protection, have begun to retaliate. In Tabar, a small village just outside Port-au-Prince, a group of townspeople captured ten men who had repeatedly robbed and attacked the locals. In the ensuing melee, three of those captured were killed. Last Sunday several men burst into the living quarters of a Dutch priest who had recently said a funeral Mass for a Tabar boy killed by the army. The robbers stole \$3,000 from the church near Port-au-Prince and shot the priest twice. He survived.

One of several progressive clergymen who joined this summer's attack on the government is the Rev. Jean-Bertrand Aristide, 34, an energetic priest with a solid constituency among the hundreds of thousands of discarded people who live in the slums of Port-au-Prince. He is known as the priest of the poor, and visitors walking through the hallways of the church compound where he works are likely to stumble over abandoned children who use the place as a sort of unofficial clubhouse, sleeping and playing ferocious games of cards and marbles.

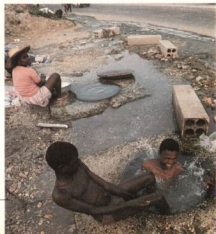
Among Haiti's tight-knit ruling class,



Down these mean streets: heading to the market in



A farmer's tool; bathing in the street

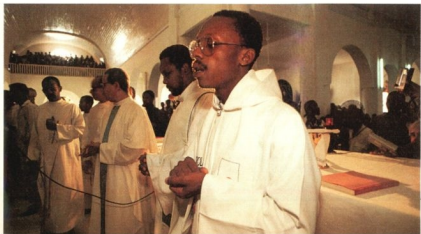




La Saline, a sprawling shantytown where thousands of Haitians live on next to nothing



On opposite sides: soldiers at the National Palace and Father Jean-Bertrand Aristide



Aristide and his clerical colleagues are hated. But the people from the shantytowns, especially Haiti's eternally jobless young men, believe in him. "He's the messiah," says one youth, lounging in La Saline, the slum behind Aristide's church. During his sermons in the summer, the priest rarely failed to attack the regime and the U.S. government that supports it.

Heading down Route Nationale 1 on an August night in a dark and slashing rain, Aristide and three other priests, all of whom have spoken out against military abuses, were stopped first at an army checkpoint and then at an improvised roadblock less than 300 feet down the road. There, a gang of about 40, armed with rocks, sticks, machetes and guns, began stoning the car. Two of the priests hid Aristide on the floor. Soldiers only a short distance away ignored the assault.

Meanwhile, in another car in the priests' convoy, a young religious student was mistaken for Aristide, badly beaten and saved from execution only when the gang's leader approached, took the boy's face in his hand and then pushed him away. "That's not Aristide," he told his men. "Aristide doesn't have a beard." The priests escaped when their driver spotted a small opening in the barricade and plowed through it into the night.

During those summer months of terror and insecurity, the presidential candidates did not campaign in the countryside. At the offices of Marc Bazin, a leading candidate who was fired in 1982 after four months as Jean-Claude Duvalier's Finance Minister, nervous guards still frisk visitors. Louis Déjoie, whose father opposed François Duvalier in the 1957 election that brought the dictator to power, keeps a pistol on his desk. When Déjoie is told that a U.S. embassy official has suggested army escorts, he laughs: "Could we trust them?"

The strikes and demonstrations have ended, but doubts persist about whether the government is committed to meaningful elections. Aside from the candidates and the U.S. embassy, few expect Haiti's new electoral council to be able to set up a free and fair vote by Nov. 29, the date scheduled for the presidential ballot. "The government certainly would prefer not to have elections," says Emmanuel Ambroise, a member of the council.

Ambroise, whose brother and pregnant sister-in-law were tortured to death at François Duvalier's orders in 1965, believes that the council will nonetheless be able to run a respectable contest. "We are going to have this election right in the belly of the beast," he says. Many Haitians, however, feel that Ambroise's optimism is misguided, and some have suggested boycotting the elections. To prevent that, several popular coalitions recommended a reform of the provisional regime, including the possible resignation of General Williams Regala, the least popular member of the three-man government.

Back in the late afternoon heat of the



Hunting the Tonton Macoutes: a woman strolls past a mural depicting peasants driving out the dreaded goons, a legacy from the Duvalier days

La Saline slum, the election provokes yawns or hoots of derision from the same people who came out in March to vote overwhelmingly for the new constitution. "This government isn't interested in real elections," says Frederick, who will not give his last name because he fears reprisals. "They want their own man in power, so that they can stay *there*," he gestures toward the hill where the wealthy live amid satellite dishes and swimming pools. "and we can stay *here*." He sweeps his hand across the tableau that poverty has painted: alleys filled with refuse, a dwarf and a blind man begging together and a troupe of half-naked children who parade by, playing their own brand of music on a series of improbable homemade instruments. Aristide's constituents.

Like others, the priest is not particularly hopeful about the election's outcome.

The call for a substantial change in the provisional government has been stilled in the face of continuing U.S. support for the regime. Today, Aristide is advocating instead a "historic national unity" across class lines "to prevent Duvalierists and the Tonton Macoutes from taking power."

Those class lines, however, are not so easy to cross. Pacot, a run-down but still chic neighborhood, is three miles and another world away from La Saline's slums. In a corner here and there, the brittle, corrupt surface of Papa Doc's Haiti still glitters. Guard dogs run along the tops of security walls, and chauffeured Mercedes Benz slip in and out of driveways leading to Gothic gingerbread houses.

Aubelin Jolicoeur lives here in a stucco house that looks out over a garden. As the sun sets behind his terrace, the bougainvillea, like a tropical cliché, begins to

cast its mysterious evening shadows. "The government *absolutely* believes in elections," says Jolicoeur, whom Greene immortalized in *The Comedians* in the character of the vicious—but charming—Petit Pierre. He sips at his champagne. "Why, Bill called me in just this morning," he says, referring to General Regala. "All he could talk about was elections, elections, elections. For three hours. He asked me to begin a series of profiles of the candidates. Of course, I'm only too happy to oblige. You see, he really wants democracy in our dear Haiti."

Jolicoeur plays with his flamboyant ascot and pours another glass of champagne. "Bill is a good friend, a dear friend," he says, looking up, smiling. "Would you like to meet him? I can arrange it." In a few hours, the shooting will start again. —*By Amy Wilentz/Port-au-Prince*

Earth Station, Can You Read Me?

Dear Secretary Gorbachev,

Now that *glasnost* allows us to be open about these things, I must tell you that space travel is not the great adventure it's supposed to be. Lift-off on Sept. 29 was excruciating. My pulse raced to 200 beats a minute, and I ran a temperature. Incredibly, my partner Dryoma seems to have slept through the launch.

Accommodations on this twelve-day flight are terrible. We are both strapped in so tightly we can hardly budge. Our every twitch is monitored by electrode caps on our heads. I tried to be good but after five days, I had had enough. Tugging about with my shoulders, I wrenched my left arm free of its restraint. I tore off my nameplate. I don't know why but I enjoyed it. I must have ripped off something else in the process, because now my food supply tube seems to be stuck. Fortunately, the juice dispenser still works. Barring a bumpy re-entry, I should survive the trip.

I'm sure the scientists at the flight center in Moscow have rigged up a model containing another rhesus monkey with a free left arm—all to see what mischief I'm capable of. They needn't worry. I will do nothing to embarrass the motherland. Besides, I can't leave my seat. I cannot reach any levers. Nor can I leave my chamber to visit the fish and the mice on board for experiments. What this biosatellite needs is some of your *perestroika*—you know, restructuring. Space flight might then be more fun than a barrel of monkeys.

Sincerely yours, Yerosha



World

MEXICO

A Professor's Pupil Makes Good

De la Madrid chooses a tough economist

In a nation where style is often as important as substance, Carlos Salinas de Gortari seems an unlikely choice to be President. He is short and almost bald, and his bushy mustache and outsize ears are a caricaturist's delight. His appetite for hard work and rapid-fire oratory have earned him the irreverent nickname Atomic Ant. Yet last week the Harvard-educated Salinas was named the candidate of the ruling Institutional Revolutionary Party for the July 1988 presidential election. Although Salinas will face opponents, his victory is virtually assured; the monolithic P.R.I. has not lost a national election since its founding in 1929.

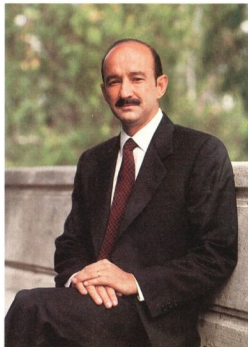
Salinas, 39, will be Mexico's youngest President in more than a half-century. Like his three predecessors, Salinas is a technocrat and has never held an elected post, although he is the first economist ever to serve in a job occupied primarily by lawyers. Still, Salinas brings ample experience to the presidency, which carries a six-year term. As the Minister of Budget and Planning since 1982, Salinas is both credited and cursed for President Miguel de la Madrid Hurtado's austerity program. Salinas' task will be to guide Mexico's economy from the sleepy epoch of the *sombrero* into the dynamic age of the superconductor. At the same time, he faces mounting demands to loosen the P.R.I.'s grip on the country's political system.

While a steady devaluation of the peso has boosted exports and helped build foreign reserves of \$15 billion, the reforms have produced an annual inflation rate of 130%. Additional cutbacks in public spending are certain to further antagonize Mexico's powerful labor unions, which have grown angry as purchasing power has shrunk by as much as 40% during the past five years. Moreover, Mexico has a foreign debt of more than \$100 billion that consumes about \$1 billion a month in interest payments. Although a showdown with the labor unions may come, Salinas is expected to follow De la Madrid's austerity course.

On the political front, however, Salinas' success may depend on how quickly he distinguishes himself from his predecessors. While charges of ballot fraud, patronage and corruption have long dogged the P.R.I., the allegations are growing dangerously heated. Last year the situation turned particularly bitter after closely contested mayoral elections in the northern state of Chihuahua, a stronghold of the conservative National Action Party,

the largest of the eight opposition parties. Afterward a P.R.I. official conceded, "We may have won the elections, but we have lost the people."

Recently, the party leadership faced its most serious internal challenge ever. Led by Cuauhtémoc Cardenas, 53, the son of a former President, a faction insisted that the selection process be opened. The party met the demand halfway. Instead of keeping the process secret, the party leadership made public a list of six



Salinas: a swift rise for one who prefers not to slap backs

Learning painful lessons from his predecessors.

names. Each of the candidates then fielded questions from party officials at televised breakfast meetings.

Ultimately, De la Madrid still made the decision. A onetime student of De la Madrid's at Mexico City's National Autonomous University, Salinas was tapped for his youth and his allegiance to his former professor's policies. "De la Madrid wants his restructuring of the economy to be brought to fruition," says Susan Kaufman Purcell, a senior fellow at the Council on Foreign Relations. "After six years, the program is still reversible."

Since Salinas is the architect of those measures, his selection pleased foreign creditors (including U.S. bankers, who held \$25 billion in outstanding loans to Mexico). Many of the country's workers were far less enthusiastic, blaming Salinas

for the economic belt tightening. Fidel Velázquez, 87, the venerable dean of the 4.5 million-member Confederation of Mexican Workers, pointedly walked out on Salinas' hourlong acceptance speech. Asked why he had left, Velázquez responded testily, "Because I felt like it."

Other party members criticized Salinas' lack of political experience. His aides countered that Salinas could not have advanced so far had he not already mastered the political game. "He may not like the backslapping routine," says an assistant. "But he knows how to do it." Moreover, Salinas has ties with the old guard: his father Raúl Salinas Lozano, 70, is a Senator who has held Cabinet and diplomatic posts.

U.S. State Department officials expressed surprise: Interior Minister Manuel Bartlett Díaz and Energy Minister Alfredo del Mazo González were considered likelier choices. While Salinas, like De la Madrid, is favorably disposed toward Washington, he is expected to keep his distance lest he offend Mexican sensibilities. "Salinas is hardheaded enough to know that Mexico's future is bound to the U.S. and not to a tiny Third World country in Central America," says a European diplomat based in Mexico City, referring to Nicaragua. "But there has to be a little prickliness in the relationship for it to be right."

A native of Mexico City, Salinas joined the P.R.I. shortly after enrolling as an economics major at the National Autonomous University of Mexico in 1966. De la Madrid, then a law professor at the university, spotted and encouraged Salinas' budding economic talents, and the careers of the men have been intertwined ever since. Upon graduation, Salinas held a series of low-level bureaucratic jobs, then headed to Harvard in 1973, where he earned two master's degrees and a doctorate in political economy and government. Returning in 1978 to Mexico City, where he now lives with his wife and three children, Salinas worked for De la Madrid, then Minister of Budget and Planning, and assumed that post when his mentor became President.

For Salinas, the next year will be filled with rallies and speeches as he campaigns for a job that is assuredly his. Come Dec. 1, 1988, and inauguration day, however, the real challenge will begin: steering a course between populism and continued economic austerity. In the past, Mexican Presidents have taken office amid a burst of optimism and reform, but their accomplishments have usually fallen far short of their promises. If Salinas is as good a student as his academic résumé suggests, he will have learned from the mistakes of his predecessors.

—By Jill Smolowe.
Reported by John Borrell/Mexico City and Rodman Griffin/New York



Golf team: Nakasone, second from left, with Abe, Takeshita and Miyazawa

JAPAN

Tee Time for the Threesome

A trio of contenders putt for the prime ministership

Kintaro-ame, a traditional Japanese candy cane, is a frequently used metaphor for explaining the policy views of leaders of Japan's ruling Liberal Democratic Party. Snap a stick of *Kintaro-ame* in several places and the identical face of Kintaro, a folk hero, can be seen inside. Snap open the position papers of various L.D.P. officials, and they all look the same.

Thus when three L.D.P. leaders officially declared last week that they were candidates for the presidency of their party, little attention was paid to their policy papers. Never mind that one of the three candidates will become Prime Minister, succeeding Yasuhiro Nakasone, 70, when he steps down later this month after five years in office. No, the speculation immediately centered on which of the three—Party Secretary General Noboru Takeshita, former Foreign Minister Shintaro Abe or Finance Minister Kiichi Miyazawa—will be the best power broker, dispensing promises among the various factions that make up the L.D.P. The winner needs a majority of the 445 L.D.P. members in the Diet. "I do not think there are any contentious issues dividing us," said Takeshita. "It will boil down to differences in style."

Differences there are. The front runner is Takeshita, 63, a cautious political pro who proudly admits building his career on "patience and silence." Diligently executing other men's policies rather than pushing his own ideas, he is viewed by critics as an unoriginal thinker. Takeshita controls the largest faction in the Diet, with 114 votes, but it is well below the 223 required for victory.

Miyazawa, 68, is as urbane and witty as Takeshita is provincial and dry. A rabbit at negotiating Japan's bureaucratic

warrens, Miyazawa served for ten years in the Ministry of Finance before his 1953 election to the Diet, where his faction now numbers 89. The favorite among businessmen and government officials, Miyazawa is fluent in English. All his brilliance, ironically, may be a political liability in a country where too much flair and genius, openly displayed, is suspect.

The genial Abe, 63, worked as Nakasone's highly visible Foreign Minister from 1982 to 1986, logging 39 official trips abroad. Open and easy in manner, he is the closest in style to Nakasone, a man who reshaped Japanese politics by being dynamic and forceful.

After filing their petitions to run, the three candidates announced that they would meet privately in an attempt to negotiate the choice of Nakasone's successor among themselves. If that effort fails, L.D.P. members will hold a vote next week.

Takeshita and Abe have already co-bled together a fragile union with another faction leader, Toshio Komoto. The trio controls 231 votes, but who the candidate will be, Takeshita or Abe, remains a question. To the delight of Miyazawa, who is fishing for allies, the Abe-Takeshita alliance is rickety. As Abe puts it, "There is only one chair for us to sit in. We can't solve the problem with a round of golf, which I would surely win."

The man most eager to break that threesome is Nakasone, who covets the role of kingmaker in order to maintain clout once he leaves office. Ever the shrewd politician, he has not publicly declared his choice. Though only a so-so golfer, Nakasone has proved himself a pro at playing the intricate game of politics.

—By Barry Hillenbrand/Tokyo

BRAZIL

Deadly Glitter

A junkyard radiation mishap

The lovely phosphorescent powder was unlike anything Leide das Neves Ferreira, 6, had ever seen. Her father, a junk dealer in the Brazilian city of Goiânia, discovered the mysterious substance when he pried open a heavy lead casing that a scavenger had sold him. Leide rubbed the powder on her body so that she glowed and sparkled. Dust fell on the sandwich she was eating.

Leide, her father and the scrap collector were in critical condition at a Rio de Janeiro hospital last week, not expected to survive. An additional 20 or so people were also hospitalized, most of them relatives and neighbors of Leide's father who had carried away traces of the powder on their skin and clothes.

The glittery stuff proved to be cesium-137, a radioactive isotope used in cancer-therapy equipment. The scrap collector found the casing a month ago in a spot where a radiotherapy clinic had once stood. Though months may pass before the final toll is known, the Goiânia episode promises to be that rare nightmare, a radiation mishap that kills several people. The worst of these was last year's explosion at the Chernobyl nuclear reactor, which Soviet authorities acknowledge has claimed 31 lives.

The ten Goiânia victims in most serious condition, including Leide, were flown to a naval hospital in Rio de Janeiro. There they are being treated by a core team of eight radiation specialists, including one from the U.S. and another from the Soviet Union. Bone-marrow transplants, which were conducted on Chernobyl survivors, are not being considered. Radiation can destroy the vital marrow, which produces among other things the white blood cells that help the body guard against infection, but some of the Goiânia victims are so radioactive that new bone marrow would simply become contaminated. All patients are undergoing frequent decontamination baths and are drinking special liquids designed to soak up radiation.

Meanwhile, investigators armed with Geiger counters were searching for other contaminated areas in Goiânia (pop. 1.2 million), in central Brazil. Authorities have checked more than 4,000 people for exposure and evacuated 30 families from their homes, many of which were near the junkyard.

A police inquiry is under way to determine why the casing remained at the clinic site. Workers from the National Atomic Energy Commission are preparing to entomb the lead container, the cesium and other contaminated material in concrete. The commission has decided that the material should be airlifted to a remote mountain range in the Amazon jungle.

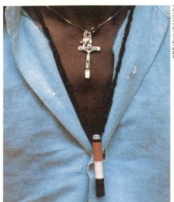
World Notes



Britain: Thatcher stoking the Blackpool fires



Poland: private vendor selling apples in Warsaw



Sri Lanka: a rebel's poison pendant

SRI LANKA

Poisoning a Peace Pact

The agreement forged by New Delhi and Colombo in July to end Sri Lanka's four-year civil war was badly mauled last week as the separatist guerrillas known as the Liberation Tigers of Tamil Eelam went on a rampage. The Tigers butchered at least 170 civilians and 27 Sri Lankan soldiers and policemen after 13 of their members in Colombo's hands committed suicide with cyanide pills. The deceased rebels were among 17 guerrillas captured by the Sri Lankan navy last week for allegedly smuggling arms and ammunition into the country by trawler from India.

The bloodletting badly undermined the credibility of the 15,000-man Indian peacekeeping force that is patrolling northern and eastern Sri Lanka. The Indian government vowed to disarm the Tigers forcibly if necessary, and by week's end Indian troops had raided rebel camps and arrested 160 guerrillas amid reports of brisk fighting.

POLAND

Big Brother Hears You

Like Communist rulers elsewhere, Polish officials have not been eager to submit their

decisions to a vote of the people. But to win public support for a sweeping economic-reform package, Warsaw announced last week that it will put the measures to a referendum in late November. The plebiscite will be the first since the late 1940s.

Patterned after Soviet Leader Mikhail Gorbachev's *perestroika* (restructuring), the reforms call for laying off more than 3,000 government employees, granting greater freedom to state-owned companies and allowing prices to jump by slashing subsidies. Gaining voter approval for the program could prove difficult. In an official survey, almost a third of those questioned said efforts to improve the economy would further reduce living standards, which are already below 1975 levels.

BRITAIN

Renovating The Revolution

Inside the meeting hall at the seaside resort of Blackpool, the feeling of jubilation was palpable. Prime Minister Margaret Thatcher and 4,000 representatives of her Conservative Party had gathered for the first annual party conference since rolling to victory at the polls last June for the third successive time. Declared Thatcher: "We now have a new Britain: confident, optimistic, sure of its economic strength."

Still, the delegates were not complacent. The theme of the annual conference was "Action for the Third Term," and there was much talk of finding ways to keep the Thatcher revolution from running out of steam. The Tories thus endorsed further cuts in taxes, tougher anticrime measures and new curbs on labor unions.

EGYPT

The Making of A President

The streets were hung with political posters and multicolored banners, and noisy crowds gathered for campaign speeches. But when 12.7 million Egyptians went to the polls last week, only one candidate was on the ballot, President Hosni Mubarak, and he was approved for a new six-year term with 97% of the vote.

Mubarak was assured of a second term in July, when he was nominated without opposition by the People's Assembly, Egypt's legislature. Although last week's vote lacked suspense, it was nonetheless a tribute to the staying power of the taciturn, plainspoken Mubarak, who was Vice President when President Anwar Sadat was assassinated in 1981. Mubarak has expanded democratic freedoms at a time of severe economic problems and rising Islamic fundamentalism. When he was chosen for

his first term in the tense period immediately after Sadat's death, "the big turnout was not for Mubarak, it was for Egypt," said Sociologist Saad Eddin Ibrahim. "This time the turnout was for him."

THE PHILIPPINES

New Lyrics or Old Refrain?

Even veterans of the five previous coup attempts found the latest plot to overthrow Philippine President Corazon Aquino alarming. According to army intelligence last week, Aquino was to be the target of an uprising this month led by prominent Right-Wing Politicians Gregorio Honasan, the fugitive colonel whose August mutiny nearly toppled Aquino, and Ferdinand Marcos. One crony reportedly even had a six-seater plane ready to spirit the exiled Marcos from Hawaii to Manila.

Yet Aquino did not move against politicians linked to the conspiracy. Instead, she shut down one radio station that had been broadcasting antigovernment messages and served warning on three others. To many skeptical observers, the threatened coup was merely a ruse to justify chilling the media. Said Columnist Maximo Soliven of the *Philippine Star*: "That's a song we have heard before—with the lyrics by Marcos and the music by Imelda."

Medicine

The Appalling Saga of Patient Zero

A stunning book traces the mishandling of the AIDS epidemic

Club Baths, San Francisco, November 1982... When the moaning stopped, the young man rolled over on his back for a cigarette. Gaetan Dugas reached up for the lights, turning up the rheostat slowly so his partner's eyes would have time to adjust. He then made a point of eyeing the purple lesions on his chest. "Gay cancer," he said, almost as if he were talking to himself. "Maybe you'll get it too."

—Randy Shilts, *And the Band Played On*

Since the early days of the AIDS epidemic, researchers have reasoned that a handful of people—maybe even a single individual—bore the unknowing responsibility for having introduced the disease to North America and its first large group of victims, the homosexual community. By tracing sexual contacts, officials at the Centers for Disease Control in Atlanta in 1982 found a likely candidate: one man who, through his sexual liaisons and those of his bedmates, could be linked to nine of the first 19 cases in Los Angeles, 22 cases in New York City and nine more in eight other cities—in all, some 40 of the first 248 cases in the U.S. The CDC acknowledged his role with an eerie sobriquet: it called him Patient Zero.

Now Patient Zero is publicly identified for the first time in a stunning new book on the AIDS epidemic, *And the Band Played On* (St. Martin's Press; 630 pages; \$24.95). Zero, says Author Randy Shilts, was Gaetan Dugas, a handsome blond steward for Air Canada, who used to survey the men on offer in gay bars and announce with satisfaction, "I'm the prettiest one." Using airline passes, he traveled extensively and picked up men wherever he went. Dugas developed Kaposi's sarcoma, a form of skin cancer common to AIDS victims, in June 1980, before the epidemic had been perceived by physicians. Told later he was endangering anyone he slept with, Dugas unrepentantly carried on—by his estimate, with 250 partners a year—until his death in March 1984, adding countless direct and indirect victims. At least one man indig-



Vivid and shocking tales: Author Shilts and an obituary for Dugas



nantly hunted him down. Dugas' charm proved unfaultering: he sweet-talked the man into having sex again.

Dugas' identity as the peripatetic Patient Zero was confirmed last week by Professor Marcus Conant of the University of California at San Francisco, a pioneer AIDS researcher. But, Conant adds, "if it hadn't been this man, it would have been some other." Dugas' escapades are just one of many vivid and shocking stories in Shilts' impressively researched and richly detailed narrative. The author has been covering AIDS full time for the San Francisco Chronicle since 1983. Most of his tales underscore a theme that is pain-

fully familiar to AIDS researchers: both the Federal Government and the gay community squandered lives and let the disease rage out of control by focusing on ideological preaching instead of public health.

As if to reinforce that judgment, the Reagan Administration demonstrated on two fronts last week how political agendas still burden AIDS policy. Secretary of Education William Bennett disseminated his department's first major recommendations on how to educate young people to avoid the disease. Bennett's 28-page pamphlet, cleared by the White House, is a model of moralizing and seems mainly to be meant as a challenge to Surgeon General C. Everett Koop, an advocate of bluntly practical counsel. Bennett's booklet suggests that schools and parents "teach restraint as a virtue," downplays the use of condoms in sex and does not even mention the importance of clean needles if

injecting drugs. Critics condemned Bennett's emphasis on abstinence, noting that by 17, almost half of all boys and nearly a third of girls have had intercourse. Said Congressman Ted Weiss, a Manhattan Democrat: "It's totally out of touch with reality."

The more troubling event was a pair of resignations from President Reagan's advisory commission on AIDS two months before that body was to issue its first report on the "medical, legal, ethical, social and economic impact" of the disease. Since its appointment in July, the 13-member commission has been beset by factional squabbling and accusations that it is heavy

on conservatives and light on expertise. The last shortcoming was only intensified by the departures of its chairman, Dr. W. Eugene Mayberry, chief executive of the Mayo Clinic, and its vice chairman, Dr. Woodrow Myers Jr., Indiana's health commissioner. Said Myers: "We did not receive the full degree of support from the Administration." The new chairman is not a medical scientist but retired Admiral James Watkins.

Turnout in federal AIDS policymaking is anything but new, according to Shilts. His book quotes extensively from internal memos at CDC and the Department of Health and Human Services to show that the very officials who testified before Congress that research scientists had all the money they needed to pursue

Calculating The Odds

AIDS is not easy to catch, even from an infected sex partner. But researchers at last week's 27th Interscience Conference on Antimicrobial Agents and Chemotherapy, in Manhattan, presented further evidence that the odds are not equal for all players in today's sexual roulette. Drawing on a study of 357 men at a venereal-disease clinic in Nairobi, Microbiologist William Cameron reported that uncircumcised men are 9½ times as likely as circumcised males to become infected after exposure. According to Cameron, "The

mucosal membrane underneath the foreskin may trap the virus, making it more likely to enter the bloodstream."

Cameron and others at the conference also reported that men with genital ulcers—caused by such infections as herpes simplex 2, syphilis or chancroid—were three times as vulnerable to the AIDS virus as those who were lesion free. "An ulcer breaks the integrity of the skin and allows infected blood to come into contact with a sexual partner," says Cameron. Thus, he adds, controlling treatable diseases like herpes and educating uncircumcised men about their risk could make a slight dent in the so far incurable scourge.

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the disease were privately arguing just the opposite. He quotes a May 13, 1983, note from Assistant Secretary for Health Edward Brandt seeking new funds. "It has now reached the point," the memo reads, "where important AIDS work cannot be undertaken because of the lack of available resources... [which] will have a detrimental effect on CDC's important prevention programs." The memo, Shilts adds, was written just four days after Brandt testified before a House subcommittee that emergency funding was "unnecessary."

Shilts contends that as part of the Administration's efforts to distract attention from its inadequate financing and poor leadership, the U.S. Government "brazenly" conspired to steal credit for discovering the AIDS virus from researchers at France's Pasteur Institute. He dismisses as a myth the competing claim of Robert Gallo of the National Cancer Institute and, quoting U.S. researchers, strongly implies that Gallo stole the French strain and presented it as his own, a charge Gallo denies. Shilts labels as a "pleasant fiction" a 1987 U.S.-French political accord that settled lawsuits and deemed Gallo and France's Dr. Luc Montagnier "co-discoverers" of the virus.

Shilts, who is openly gay, is equally tough on the gay community, which, he says, transformed its civil rights movement in the '70s into "omnipresent carnality." In the face of rampant disease, he says, gay leaders resisted calling for sexual restraint, fearing that it would threaten their hard-won liberation. He adds that the owners of gay "back room" bars and bathhouses were prominent contributors to gay political groups and major advertisers in gay newspapers, and thus unduly influenced the debate. In one grim scene, a bathhouse owner tells a doctor at San Francisco General Hospital, "We're both in it for the same thing. Money. We make money at one end when they come to the baths. You make money from them on the other end when they come here."

Shilts says he interviewed more than 900 people. He lists dates for eleven interviews with Dr. James Curran, head of the CDC's AIDS program. The most poignant passages recount the first stirrings, before doctors knew there was such a disease. Shilts suggests that the first non-African victim may have been Margrethe Rask, a Danish physician who fell ill in 1976 while working in a primitive village hospital in Zaïre and died of AIDS-related pneumonia in 1977. At about the time Rask succumbed, Shilts began interviewing physicians about the health implications of the gay sexual revolution. Often, in private, they noted the spread of various venereal and gastrointestinal diseases and worried about what would happen if a new disease appeared. Dr. Dan William of Manhattan warned, "The plethora of opportunities poses a public health problem that's growing with every new bath in town." That was in 1980, just a year before the doctors learned their worst fears had come true.

—By William A. Henry III

Health & Fitness

A How-To Guide on Cholesterol

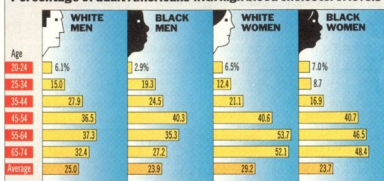
New federal recommendations aim to set doctors straight

Doctors too need prescriptions. Although the link between cholesterol and such ailments as heart disease and stroke has been growing stronger for nearly two decades, physicians have often been slow to put this lesson into practice. A 1986 survey, conducted by the National Heart, Lung and Blood Institute in Bethesda, Md., found that 50% to 75% of physicians failed to provide diet or drug

HDL) to "bad" cholesterol (low-density lipoprotein, or LDL). People in the borderline range who have additional risk factors, such as smoking, being male, or having a family history of heart disease, are advised to follow the same routine as those at high risk.

The primary prescription for lowering cholesterol levels still reads like a California café menu: low-fat milk and dairy

Percentage of adult Americans with high blood cholesterol levels*



*240 mg/dl or above. Includes both HDL (good) and LDL (bad) cholesterol.

TIME Chart by Nigel Holmes

treatment for patients with dangerously high cholesterol levels. Their inaction reflects both long-standing confusion over what constitutes a high cholesterol level and inexperience with the therapies.

To send a clear signal, a panel of experts assembled by the NHLBI last week called for all Americans over age 20 to have their cholesterol levels checked. The group also set forth the first well-defined national cholesterol-level standards for adults and spelled out precisely what physicians should do once a patient's cholesterol level is determined. "Medical practice is going to undergo a major change on the basis of this report," said Panel Chairman DeWitt S. Goodman of Columbia-Presbyterian Medical Center in New York City.

The report delineates three cholesterol ranges (all measured in milligrams per deciliter of blood). Levels below 200 mg/dl are considered desirable, although people in this range are still urged to have their cholesterol rechecked every five years. Those with readings from 200 to 239 mg/dl are viewed as borderline cases and advised to watch their diet and be retested annually. Individuals with levels of 240 mg/dl or more are at high risk and require medical attention, including a second test to determine the ratio of "good" cholesterol (high-density lipoprotein, or

products, lean meat, few eggs and absolutely no animal fat or poultry skin. If cholesterol cannot be reduced with diet alone, the panel directed, physicians should prescribe such drugs as cholestyramine and colestipol, which act in the intestines and cause the body to utilize excess cholesterol. The much touted newer drug lovastatin, which works in the liver, where most of the body's cholesterol is manufactured, is mentioned as a second choice, since its long-term effects remain unknown. Based on the new standards, one in four adults may require diet modifications or drug therapy.

The new guidelines do not apply to children, who have different nutritional requirements; that matter will be addressed by a second national panel, to be convened next year. Nor do they address the problem of imprecise laboratory results. Last year 2.5 million Americans had their cholesterol levels checked, but measurements can be off by as much as 300%, depending on the test, the lab and even what the patient had to eat and drink in the previous twelve hours. The medical-laboratory industry is currently grappling with the problem by employing a "gold standard" developed by the Government in the hope that tests can be made consistent nationwide.

—By Dick Thompson/
Washington

Special Report On Global Competition

Taking On The World

U.S. industry fights to regain its prowess in the marketplace

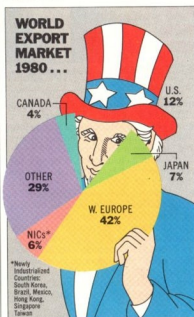
Should an economic power as large as the U.S. get excited about the sale of a few thousand autos or tons of steel to a foreign country? Yes, indeed. For America in the 1980s, a modest export can represent a major industrial breakthrough. Cases in point: Chrysler Chairman Lee Iacocca announced in September that for the first time in nearly ten years, the automaker would begin selling U.S.-made autos in six West European countries—and at prices lower than those of competitive models. Earlier this year the largest U.S. steelmaker, USX, sold 20,000 tons of hot-rolled bands to an Osaka tube company at a price some 12% below what Japanese producers were offering.

Such successes might have been unthinkable only a few years ago, when the world tended to view many American products as singularly unattractive in quality and price. In retrospect it was no wonder, since U.S. industries were saddled with an overvalued dollar, vast payrolls, clunky factories and an overstuffed management. Yet in a relatively short span, the attitude and substance of much of American industry have changed. Competitiveness has become a top economic priority, and an overworked buzzword, from Main Street to Capitol Hill. American companies have slimmed down and smartened up, while at the same time the 35% fall in the value of the dollar during the past two years has made U.S. products more affordable overseas.

In the nick of time too, because a bruising global battle has really just begun. As more countries become industrial powerhouses and their companies seek larger marketplaces, the U.S. will meet more and stronger competitors. Japan, the most potent of them all, is pushing into such American strongholds as biotechnology and supercomputers. Western Europe is coming up fast in aeronautics and office equipment. The newly industrialized countries are staking out their turf as low-cost producers of everything from steel to TV sets. And the U.S. may face a fresh competitive breeze from Canada as

a result of the free-trade agreement the two countries reached on Oct. 4.

U.S. export performance in the 1980s has been discouraging. Its share of world exports slipped from 12% in 1980 to 11% last year, while most other industrial countries made gains. The share held by the least developed countries fell sharply, generally because of plunging world prices for commodities ranging from oil to rubber to tin.



America's leadership in some industries is probably gone for good. The U.S. may never be able to make a significant comeback in mass-manufactured commodities, among them textiles, shoes, consumer electronics and machine tools. But the more complex the product, the more likely America can hold its edge. The U.S. is still strong in such products as semiconductors (world market share: 40%), personal computers (68%) and jet engines (90%). Moreover, the U.S. re-

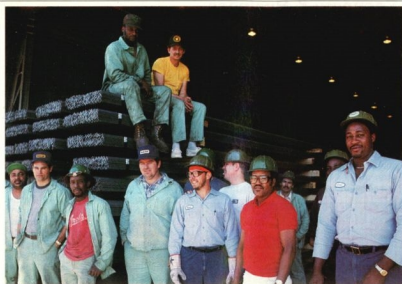
mains the leading force in health care, entertainment and financial services.

As a barometer of America's competitive position, the U.S. trade deficit has become the era's most closely watched economic statistic. And that gap, which reached \$156 billion last year, is starting to show subtle signs of improvement. The weaker dollar has fostered an export surge, starting with such price-sensitive goods as paper, lumber and chemicals. During the first half of the year, U.S. exports of manufactured products rose 17% over the same period in 1986. But on the other half of the trade equation, the flood of imports to the U.S. remains strong. Though the volume of goods coming in has declined, the reduced buying power of the dollar has increased their total cost.

Besides help from a cheaper dollar, corporate America is enjoying lower costs, thanks to its drive to restructure and streamline. "For the first time in 30 years," declares USX Chairman David Roderick, "we have lower costs of producing steel for our customers in the U.S. than the Japanese industry has in providing steel to their customers in Japan." At Xerox, management chopped manufacturing costs 20% during the period from 1982 through 1986, even though overall inflation totaled 16.6% during those five years.

Of course, competitiveness comes at a price for U.S. workers. Some 2 million manufacturing jobs have been slashed during the 1980s out of a total industrial work force of 20.3 million. Fortunately, a robust economy helped ease this transition by creating 13.4 million new U.S. jobs in that period. One company alone, Exxon, has cut 48,000 workers, or nearly one-third of its employees. Such vast layoffs have enabled management to negotiate more flexible work rules and smaller raises. For many Americans, the downward pull of low foreign wages will result in a stagnating or even declining standard of living.

Companies are boosting efficiency by scrapping their oldest plants and equipment. In one sweeping program, General Electric shut down 30 aged plants and opened 20 new ones between 1981 and 1986. As a result, a prime yardstick of



Profit and spirit are high at a Nucor steel minimill in South Carolina, left. In Xerox manufacturing plants like the one below, costs have been slashed by 20%.



U.S. competitiveness, manufacturing productivity (output per worker hour), increased by 3.5% last year. That figure, the best since the 1960s, is better than the improvement in Japan (2.8%) and West Germany (1.9%). But some economists fear that the benefits of America's corporate streamlining are a one-time deal. "To what degree is this improved productivity record sustainable? If it is due to closures of old plants, it can only go on for so long," says Robert Lawrence, a senior fellow at the Brookings Institution.

As old companies are shaping up, many newer firms have flourished that feature both minimum manpower and ultramodern processes. One such firm is Nucor, a steel company (1986 sales: \$755 million) based in Charlotte, N.C., that employs a headquarters staff of just 17. Called a minimill because it makes steel products from molten scrap metal rather than smelting the raw material from iron ore, Nucor manages to undercut the prices of both foreign and domestic steel companies. Result: Nucor's profits have quadrupled during the past decade, reaching \$46.4 million last year.

Just as important as efficiency for American industry is quality. The most obvious improvement has been in Detroit, where automakers were shamed in the 1970s by their products' poor performance. Today in the Hewlett Packard parking lot in California's Silicon Valley, where not long ago a U.S.-made car was a rare find, the sun shimmers off the sleek bodies of hundreds of Ford Taurus sedans. The electronics company was so impressed with the style and solidness of the autos that it bought a fleet of 8,000 for staffers to drive.

As countries with extremely low wage rates and local costs take over the production of simple commodities, U.S. manufacturers are increasingly turning to market niches in which products are more complex and specialized. This is especially true in the semiconductor industry,

where Japanese companies have taken over the market for mass-produced memory chips. Thus Silicon Valley chipmakers like Cypress Semiconductor (1986 sales: \$51 million) thrive on diversity. Cypress makes 80 different types of chips in a factory that can accommodate several tool-

rolls off an assembly line. In U.S. auto plants, that process takes as long as five years, twice as long as in Japan.

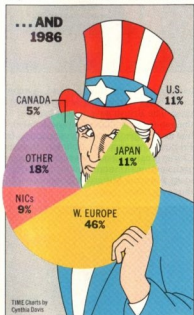
Another structural flaw that tends to undermine competitiveness is the U.S. Government's heavy borrowing. Though Congress has finally put the federal deficit on a downward path, from a record \$221 billion in fiscal 1986 to an estimated \$157 billion this year, the shortfall is still large enough to keep U.S. interest rates high in comparison with those of other industrial countries. The steep cost of loans, in turn, tends to discourage corporations from borrowing to make long-term improvements in plants and equipment.

Lately, business leaders have been warning about an even more deep-seated problem: a lack of basic skills among workers. While America's colleges and universities are second to none, its high schools are failing to give students the verbal and math basics they need for increasingly technical jobs. When New York Telephone recently administered a test of fundamental skills to 22,880 job applicants, 84% failed. Better job-training programs are key parts of major competitiveness-boosting trade bills now being considered in Congress.

Business leaders are bullish on their competitive ability. According to a poll conducted this year for the Coopers & Lybrand accounting firm, 88% of the 300 top manufacturing executives surveyed said they thought the U.S. could regain its edge in the auto industry, while 71% felt that way about the steel business. But what alarmed the accounting firm's top manufacturing expert, Henry Johansson, was that the majority of the U.S. executives (55%) still see their main competition as domestic rather than foreign. Too many business leaders fail to recognize the global marketplace. For those Americans, said one electronics executive, "it's wake-up time."

—By Stephen Koopp.

Reported by Richard Hornik/Washington and Frederick Ungheuer/New York



ing changes every day. Says T.J. Rodgers, the company president: "You can be very competitive with the Japanese if you understand what they're good at and don't bash into them head on."

Despite many inspiring advances, however, corporate America still suffers from handicaps that will impair its ability to keep up with the rapid evolution of products. An oft cited complaint is the lengthy lead times between the moment an idea is conceived and the time it finally

Western Europe

Basking in Europhoria

But the dollar's dive poses a fresh challenge

Only a few years ago, Western Europe seemed overwhelmed by a malady known as Europhoria. Now the mood is closer to Europhoria. And with good reason: from Scandinavia to Italy, most countries are enjoying annual economic growth in the comfortable 2%-4% range, stock markets are strong, and corporate profits are robust. Most impressive, West European exports have surged by 33% in the past three years, from \$689 billion in 1983 to \$916.4 billion in 1986. With the U.S. alone, Western Europe enjoyed a trade surplus of \$18.2 billion last year, a sharp contrast to the \$2.9 billion deficit of 1983.

That overseas prowess is not dependent solely on sales of such consumer products as BMWs and Bordeaux wine. Other important export categories range from chemicals and pharmaceuticals to industrial machinery and office equipment. Europe's proudest achievement, perhaps, is its new prominence in aerospace. Airbus, the aircraft consortium backed by the governments of France, Britain, West Germany and Spain, has emerged as a major competitor to America's Boeing in the passenger-jet market. Last month Europe confirmed its successful lift-off in the space market by hoisting two communications satellites into orbit atop an Ariane rocket. While the U.S. space shuttle remains grounded, Ariane, the commercial arm of the 13-nation European Space Agency, has in eight years put a total of 19 satellites in space and signed an additional 44 launch contracts worth \$2.38 billion.

For all the renewed confidence in Europe, however, a few strains of Europhoria linger. Europeans realize that in the mid-1980s their exports to the U.S. received a mighty boost from the rise in the value of the dollar, which made imports less expensive for American consumers and businesses. Now that the dollar has taken a dive, Europe's export industries are feeling pressure once again. Another concern is sluggish investment. Despite healthy earnings, many of Europe's companies are not devoting enough money to modernizing and expanding factories. Instead, firms are stashing cash in high-yielding money-market securities or buying up other companies in Europe and the U.S. Warns an economist at the Paris-based Organization for Economic

Cooperation and Development: "Europe's industrial assets are being reshuffled in a major way. But is this a prelude to better management of those assets or just portfolio game playing?"

Yet fundamental and positive changes are taking place. In several European nations bloated and inefficient nationalized industries are shrinking in size,



losing government subsidies and, in many cases, being turned over to private enterprise. The British government has sold to the public major shares of its national airline and telephone and gas companies. In France Conservative Premier Jacques Chirac is carrying out a sweeping reversal of the nationalizations that Socialist President François Mitterrand engineered in the early 1980s.

Many European companies are learning to look beyond narrow national markets and forge alliances that will bring international clout. Italy's Olivetti, for example, was a near bankrupt typewriter company when Carlo De Benedetti, one of the most celebrated of a new breed of European entrepreneurs, became chief executive in 1978. After revamping its product line and forming joint-marketing ventures with AT&T, Olivetti has become a major force in the global office-automation market. This summer Sweden's ASE and Switzerland's BBC Brown Boveri merged to create the world's largest electrical-engineering group, with annual sales of \$15.5 billion.

Wolfgang Hager, a business consultant for the Brussels-based European Research Associates, points out that the new Eurogrants are fostering a "corporate culture that thinks European." Companies are pushing their governments to accelerate efforts to remove all trade barriers and completely unify product standards. The goal is to finish the process that merely began with the establishment of the European Community: the creation of a truly integrated "home" market embracing the more than 300 million Europeans.

But even a united Europe will not continue to fare well in international competition unless it can keep pace in the technology race. Despite its achievements in aerospace, Europe has fallen behind in several technological fields, including robotics and digital audio equipment. Most serious, perhaps, is its dependence on imports of semiconductors, those electronic microchips now found in everything from computers to talking teddy bears.

While the semiconductor competition may already be lost, Europe hopes to return to the vanguard in the development of advanced applications for electronic technology. Governments and companies are forming pan-European research programs to spread costs and reduce duplication of effort. One example: the \$4.5 billion Eureka

program, launched in 1985. Backed by private funds and 19 European governments, Eureka now involves more than 600 companies and research organizations working on 165 projects ranging from high-definition television technology to computer-aided systems for producing software.

Europe has no illusions about surpassing the U.S. and Japan in the high-tech competition. But the European effort now going into research makes it clear that the proud exporters of the Old World have no intention of retreating from the frontiers of science, industry and trade.

—By Christopher Redman/
Paris



Unloading British-made wings in Toulouse, France, where Airbus jets are built
The Old World has no intention of retreating from the frontiers of science.

"Let Us Shake Hands"

Under pressure from allies, Tokyo changes tactics

From the façade of the normally austere 17-story Ministry of International Trade and Industry in the heart of Tokyo dangled a huge white banner last week. In bold calligraphy it exhorted passersby: LET US SHAKE HANDS WITH NATIONS OF THE WORLD BY IMPORTING MORE GOODS. In his 13th-floor office, Hiroshi Sugiyama, head of MITI's Bureau of Industrial Policies, echoed the spirit of the banner. "To Japan," he said, "the economic priority is not *kyoso* [competition] but *kyocho* [conciliation] with the rest of the world."

This from the government whose rallying cry has long been "Export or Die"? Does this mean that Japan, the world's most fearsome economic competitor, is ready to roll down its sleeves and relax while its rivals carve up its slice of the global market? Not exactly. But Japan, under pressure to reduce a trade surplus that reached \$83 billion last year, is indeed trying to soothe foreign critics by curbing exports and opening its markets to imported goods.

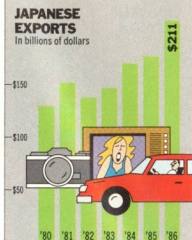
The trade turnaround was a long time coming, but there are finally some signs of change. Between 1982 and 1986, the value of Japanese exports jumped from \$138 billion to \$211 billion, partly because of the yen's 50% rise against the dollar. In 1986 alone, Japan's trade surplus rose 79% from the previous year. But last spring it began to come down. By July the surplus was nearly 15% lower than the same month the year before. Meanwhile imports, spurred by growing domestic demand for ever cheaper foreign goods, were up 30% in August, compared with that month of 1986.

The adjustment has not been easy. In such basic industries as shipbuilding, textiles and small electronics, Japan began losing customers to South Korea, Taiwan, Hong Kong and Singapore. Many Japanese firms had to cut production and sacrifice profits to remain competitive. Mazda, for example, saw its net earnings drop 77% in the six months ending April 30, compared with the same period a year earlier, as it struggled to keep its car prices down in the U.S.

The yen crisis forced manufacturers to change tactics. To reap the benefits of lower wages along the Pacific Rim, many Japanese firms built new factories offshore. Matsushita, the world's largest consumer electronics manufacturer, makes motors in Malaysia, batteries in Indonesia and facsimile ma-

chines in Singapore. Sony plans to move one-third of its production out of Japan by 1990.

Japan's automakers, which voluntarily limit exports to the U.S. to 2.3 million cars a year, are rapidly shifting production to American shores in hopes of dousing the protectionist sentiments that continue to simmer in the U.S. Congress. Many firms are finding an added benefit: it is now cheaper to build cars in Ohio than in Osaka. By the early 1990s, at least



14 Japanese plants in the U.S. could be turning out 2 million cars a year.

While traditional exports are under pressure, the Japanese are busily trying to develop entirely new markets. The government of Prime Minister Yasuhiro Nakasone has offered its blessing—and a sizable chunk of its budget—to firms that are moving into such high-tech fields as supercomputers, biotechnology, lasers,

aerospace and artificial intelligence. At MITI's Electrotechnical Laboratory in Tsukuba Science City, 37 miles northeast of Tokyo, scientists are building exotic robots that, among other uses, have proved handy for entertaining foreign guests. British Prime Minister Margaret Thatcher, for one, enjoyed a game of catch with the lab's artificial hand.

MITI also runs the celebrated Institute for New Generation Computer Technology, which has an annual budget of \$38.8 million. Scientists there are designing a new generation of supercomputers that will allow users to give orders in English or Japanese rather than in a computer language. Such systems could be used as office secretaries, teachers' aides, automatic nursing systems or translators. Another field in which the Japanese are coming on strong is finance. Their trade surplus, combined with a high personal-savings rate, has provided the Japanese with a huge pool of cash to spread around the world. That has given enormous muscle to Japan's financial institutions. Four of the world's top securities firms and seven of the ten largest commercial banks are now Japanese, and they are moving in a big way onto the American monetary scene. Last year Sumitomo Bank paid \$500 million for 12.5% of the Goldman, Sachs investment firm. In March Nippon Life Insurance bought 13% of the Shearson Lehman Bros. brokerage house for \$538 million. Just last week ailing BankAmerica confirmed it will sell \$350 million worth of securities to Japanese financial companies.

As their stock of money grows, the Japanese are at last showing tentative signs of being a little more self-indulgent. An \$11 billion income tax cut this year, shorter working hours and rising incomes have increased demand for items as diverse as bread-baking machines, self-stirring saucers, oversized TVs and imported cars. Even things "made in the U.S.A." are becoming more popular—though not as fast as many American producers would like. Notes MITI's Sugiyama: "We're still trying hard to add to our shopping list something other than jets and computers from the U.S."

The past two years have demonstrated to Japan the perils of heavy dependence on foreign markets. But if the country's manufacturers started producing more goods for domestic consumption and less for export, the imbalances that have wrenched the economy could diminish. At the same time, the standard of living for many Japanese could improve considerably—as would relations with Japan's competitors abroad.

—By Nancy R. Gibbs, Reported by S. Chang/Tokyo



Taking the man out of manufacturing: a robot toils at a machine-parts plant

*"The priority is not *kyoso* [competition] but *kyocho* [conciliation]."*

Economy & Business

Canada

Big Hug from Uncle Sam

A bold pact to boost commerce across the border

Few economies are more closely intertwined than those of Canada and the U.S. Canada sends fully 77% of its exports to the U.S., while America puts Canadian addresses on 21% of its shipments. Now that tight and sometimes tumultuous relationship stands to become even tighter, thanks to the historic new trade pact between the two nations.

The hard-won agreement, worked out over 16 months of arduous negotiations and an intense last-minute push to meet an Oct. 4 deadline imposed by Washington, aims at creating nothing less than the world's largest open market. If the tentative accord wins the approval of the U.S. Congress and the Canadian Parliament, all tariffs and many other restrictions that impede the flow of goods and services between the countries will vanish by 1999. President Reagan called the agreement an "important model for other nations seeking to improve their trading relationships." To Canadian Prime Minister Brian Mulroney, it was simply a "good deal."

Mulroney is counting on the pact to give a boost to a country that at the moment has a modest surplus in world trade. From 1980 to 1984, Canada's exports surged from \$67.7 billion to \$90.3 billion, fueled largely by sales to the U.S. of such products as softwood lumber, newsprint, autos and trucks. By 1986, however, exports had slipped to \$89.7 billion, partly as a result of a falloff in Canada's revenues from oil sales. Canada had an \$11 billion trade surplus with the U.S. last year, but a \$5 billion deficit with the rest of the world.

Fears that shipments to the U.S. would be increasingly constricted by trade barriers led Mulroney to propose a free-trade treaty to Reagan during the second "shamrock summit," which took place last year. Reagan, an avowed free trader, embraced the idea. But even as negotiations proceeded, bitter disputes arose. In one case, the Administration bowed to pressure from U.S. lumber companies by slapping a 35% tariff on Canadian cedar shakes and shingles.

While both sides agreed on the goal of free trade, working out the details proved to be maddeningly complex. Just three weeks ago, Simon Reisman, Canada's chief negotiator, stormed out of the talks in Washington and flew home. The major sticking point was agreement on a mechanism to

resolve trade conflicts. At Mulroney's insistence, the Canadians returned to the bargaining table, but the wrangling continued until the deadline day. Finally Mulroney's chief of staff, Derek Burney, asked U.S. Treasury Secretary James Baker when would be a good time for the Prime Minister to call the White House to tell Reagan their effort had failed. "That



got the wheels moving," Burney recalls. The breakthrough came when both sides agreed that panels of U.S. and Canadian experts would be empowered to mediate any trade disputes that arise.

The treaty is expected to be passed by Congress and Canada's Parliament, but not without an argument. While exporters on both sides of the border are looking forward to improved sales, some business-

es, from Canadian wineries to American cattle ranches, are worried about increased competition from imports. In Canada, the political opposition to Mulroney's Progressive Conservative Party is already trying to stir up long-held fears of U.S. domination. Said Liberal Party Leader John Turner: "When he was elected, our Prime Minister said that Canada was open for business. Today the Prime Minister has put Canada up for sale."

Mulroney concedes that the trade pact could cause layoffs in some industries but maintains that by the end of the century, 350,000 more Canadian jobs will be created than will be lost, for a gain of about 3% from current work-force levels. Government experts estimate that the agreement will by 1999 account for a 5% rise in Canada's gross national product (\$355 billion last year). At the same time, America's GNP (\$4.2 trillion) could grow by 1% as a result of the increased trade. Canadians expect to boost exports to the U.S. of oil, natural gas, livestock and forest products, while American suppliers of paper goods and financial services, among other things, are likely to increase sales to Canada.

To some extent, Canada will continue to be at the mercy of commodities prices. When the cost of crude oil plummeted last year and drilling activity declined all over the world, unemployment in petroleum-rich Alberta topped 16% before it started to fall again earlier this year. Canada is a major wheat exporter, but global supplies are abundant and prices are depressed. The country is not totally dependent on natural-resource exports. Southern Ontario is a major supplier of parts and vehicles to the U.S. auto and truck industries. Northern Telecom, the manufacturing arm of Bell Canada, sells advanced telecommunications equipment around the world. In the Ottawa area, the government is using tax breaks to help develop a cluster of electronics companies—a miniature version of California's Silicon Valley.

Though Canadians often talk of boosting exports to Japan and Europe, even the most optimistic politicians and executives realize that their country's fortunes are inextricably tied to north-south commerce. The trade pact should heighten competition between U.S. and Canadian industries, but most companies in both countries seem ready for the challenge—and opportunity. "Free trade will make us better," says Thomas d'Aquino, president of Canada's Business Council on National Issues. "It will put us on our toes."

—By Gordon Bock, Reported by Peter Stoler/Ottawa



Resources like this British Columbian balsam fir are a main source of revenue. The talks ran into several logjams before an accord was reached.

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DODGE.**

DIVISION OF CHRYSLER MOTORS

7/70



*Sticker price. Tax & destination charge extra. **Based on comparably equipped sticker price comparisons to 1987 competitive mid-size models (1988 competitive data incomplete at time of printing).

†Based on warranty comparison with competitively priced models at time of printing. See 7/70 powertrain & 7/100 outer body rust-through limited warranty at dealer. Restrictions apply. **BUCKLE UP FOR SAFETY.**

Newly Industrialized Countries

Low Costs, High Growth

Coming up fast into the ranks of the top traders

While the mighty exporters of Japan and Western Europe draw most of the attention, about one-quarter of the U.S. trade deficit is the work of a pesky group of second-tier nations known as the newly industrialized countries. Once dismissed as marginal producers of chintzy clothes and toys, the NICs, which include South Korea, Singapore, Hong Kong, Taiwan, Mexico and Brazil, have gone upscale, producing everything from VCRs and computers to cars and commuter planes. By importing technology and deploying armies of low-paid but often well-educated workers, the NICs have been able to undercut competitors' prices in markets all over the world. From 1980 to 1986, NIC exports jumped 56%, to \$175 billion.

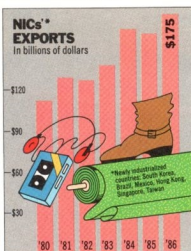
Such a pace will not be easy to sustain, however. Mexico and Brazil are overburdened by debts that threaten to crush their economies and throttle their ability to export. Even the stronger Asian NICs face perils ranging from political unrest at home to protectionist barriers abroad.

None of the other NICs has been more successful or volatile than South Korea. The government has directed the growth of such huge industrial conglomerates as Hyundai and Daewoo, which manufacture cars, computers and other high-tech goods. Following the example of the giant Japanese manufacturers, the Korean companies have launched a determined U.S. invasion. Hyundai's subcompact Excel, which reached American shores last year, is the hottest-selling new imported auto in history. This summer, General Motors started selling small Daewoo cars under the Pontiac LeMans nameplate.

While scoring business triumphs, Korea has been racked by political and social unrest for much of the year. In the summer, massive and violent street demonstrations forced Korean President Chun Doo Hwan to speed up the process of democratic reform. Then a series of strikes temporarily shut down virtually all major Korean companies and many minor ones as workers demanded—and won—higher wages. Amid the turmoil, the Korean economy has proved resilient; growth for the year is expected to be 12%.

In contrast to Korea's large corporations, Taiwan's companies, which churn out products as diverse as calculators and

vaccines, tend to be small. But they make big waves in world trade. With the U.S. alone, Taiwan piled up a \$16 billion surplus last year. That has stirred anger in Washington, which has forced Taiwan to raise the value of its currency, and is threatening protectionist retaliation because the country keeps its domestic market closed to U.S. imports.



Hong Kong, which has perhaps the most freewheeling economy in the world, readily lets in imports and ships out exports like stylish clothing just as fast. Despite uncertainty about what will happen to the former British colony when China assumes sovereignty in 1997, business confidence is strong and economic growth is expected to reach 12% this year. Leaving many high-tech fields to the other

NICs, Hong Kong is concentrating on being a financial center. Virtually all the world's major banks have offices there. Hong Kong is also developing its role as the gateway to the largest potential market in the world: China.

Singapore, which has been a leading oil refiner and supplier of drilling equipment, is still coming back from an economic slump that was exacerbated by last year's drop in petroleum prices. Nonetheless, the tiny island country did well enough to run up a \$1 billion surplus with the U.S. in the first six months of the year. Singapore is strong in electronics and is trying to establish a biotechnology industry. It also aims to be a service center for Asia, specializing in banking, insurance and communications.

Whatever problems the Asian NICs face aside the difficulties plaguing Latin America, Mexico was already staggering under foreign debt of more than \$90 billion when oil prices collapsed last year and decimated one of its major sources of revenue. In the meantime, the government has been conducting a surprisingly successful crash campaign to diversify the economy. Mexico has become an exporter of chemicals, aluminum, medical instruments and cars (built by Chrysler and other foreign companies).

Fighting recurrent bouts of triple-digit inflation, Brazil has accumulated an unsupportable foreign debt of \$110 billion. In February, President José Sarney declared that the country would stop making interest payments on its medium- and long-term commercial bank loans, a stunning action that sent shock waves through the international banking community. The financial crisis has forced Brazil to curb imports and go all out on the export front. So far, the results have been unexpectedly impressive. In July alone Brazil achieved a record monthly trade surplus of \$1.4 billion. The Brazilians still rely on sales of such basic goods as orange juice and coffee, but the country has also become a prominent exporter of manufactured items, including steel and small aircraft.

The greatest threat to Brazil, and all the other NICs, is that the U.S. will try to slash its trade deficit by erecting new trade barriers. To prevent that from happening, the NICs will need to open their own markets wider, buying sophisticated goods and technology from the U.S. Unfettered global competition may be unsettling, but it can boost trade in every direction, and that will ultimately benefit all the players.

—By Glenn Garelik
Reported by Jay Brangan/
Hong Kong and Laura López/
Mexico City



A laboratory technician in Taiwan prepares a batch of hepatitis vaccine. Where textiles dominated, a thousand high-tech ventures flourish.

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501 Electronic Typewriter. Heavy-duty typewriter with a 32-character display and 12,000-character memory.

...and man could take a longer lunch.

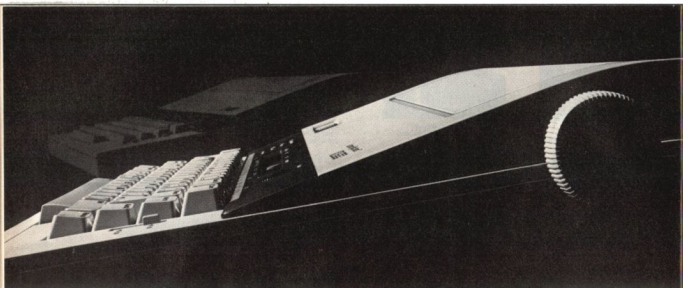
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WALL STREET

Setting Free The Bears

Is this the Big One? That question resounds these days not only in earthquake-wary Los Angeles but also on Wall Street. Tremors shook the stock market last week, fanning fears that a major correction or a crash may be coming. The Dow Jones industrial average plunged 91.55 points on Tuesday, a record one-day drop. The average also set a mark for a one-week decline: 158.78, to close at 2482.21.

What set the bears running was fears of rising interest rates. On Wednesday, banks raised the prime lending rate from 8.75% to 9.25%, the highest level since early 1986. Even so, the panic fell short of the Big One. Tuesday's drop, though large in point size, represented a market decline of only 3.47% because of the market's high level, compared with a plunge of 12.8% in the Black Thursday crash of 1929.

SOFTWARE

Is Excel as Easy as 1-2-3?

Get ready for a rumble in software. Lotus and Microsoft, the top independent U.S. producers of personal-computer programs, each announced plans to invade the other's turf. The

battleground: the \$400 million market for spreadsheets, or electronic business ledgers. Microsoft, which sells Excel software for Apple Computer's Macintosh models, plans to adapt its program for IBM-compatible computers. Lotus, which designed the best-selling 1-2-3 program for IBM machines, promises to bring out a version of that software for the Mac. Microsoft—led by Bill Gates, its boyish-looking billionaire chairman—may have an edge. The IBM version of Excel has fancier features than 1-2-3 and arrives in stores by the end of October. The new 1-2-3 will not be out until 1988.

LABOR

Revving into A Settlement

The outcome was as unexpected as it was speedy. When General Motors and the United Auto Workers began negotiating in late September, it seemed that only a prolonged strike could force GM to agree to a new three-year pact that would satisfy the union. But last week, after just eight days of formal meetings, the largest U.S. automaker and the union representing 335,000 GM workers came to terms.

Sources close to the talks said the GM pact closely parallels the one that the U.A.W. and Ford reached in September. That contract gave Ford work-

ers a 3% wage hike in the first year, along with 3% lump-sum payments in both the second and third years. Far more important to the U.A.W. was the issue of job security. The Ford deal imposed a moratorium on plant closings and barred layoffs for any reason other than a severe sales slump. From GM, the U.A.W. apparently received similar assurances about future employment levels, but in an important concession, the union will allow GM to proceed with already announced plans to close 16 plants, idling 36,000 employees, or 10% of the company's blue-collar work force, by 1989. Even the U.A.W. must have recognized that slumping GM could not afford to provide as much job security as surging Ford, which last year earned more money than its archival for the first time in 62 years.

PRODUCT SAFETY

Deadly Delay At Justice

More than seven months have passed since the Consumer Product Safety Commission declared that all-terrain vehicles—off-road buggies with three big wheels—“pose an imminent and unreasonable risk of death or severe personal injury.” The commission asked the Justice Department to require extensive warnings and free training for ATV owners and a refund program for those

wishing to return their vehicles, but the department has yet to file its case. Last week a House committee called the department's delay “baffling and unconscionable.”

Meanwhile, the toll rises. ATVs, which critics contend can flip over on rugged terrain, account for an estimated 20 deaths a month. Manufacturers, which include Honda and Yamaha, maintain that ATVs are safe if ridden properly.

ACQUISITIONS

The Good Ship Trump

The *Nabila* is not for ordinary billionaires. This gilded 282-ft. yacht marks its owner as reigning king of the big spenders. And who might that be now? Last week it was confirmed that the new skipper is Donald Trump, 41, the Manhattan skyscraper builder and casino czar. Trump paid nearly \$30 million for the liner, which contains 15 suites, a disco, pool, helipad and 296 phones.

Saudi Arms Dealer Adnan Khashoggi built the yacht for more than \$100 million, but the hyper-rich Sultan of Brunei took possession of the boat earlier this year, when Khashoggi defaulted on a personal loan. The new owner will dock the craft from time to time near his casinos in Atlantic City. It will cost \$2 million or so to dredge a deeper channel to accommodate it, but who's counting?

Environment

COVER STORY

The Heat Is On

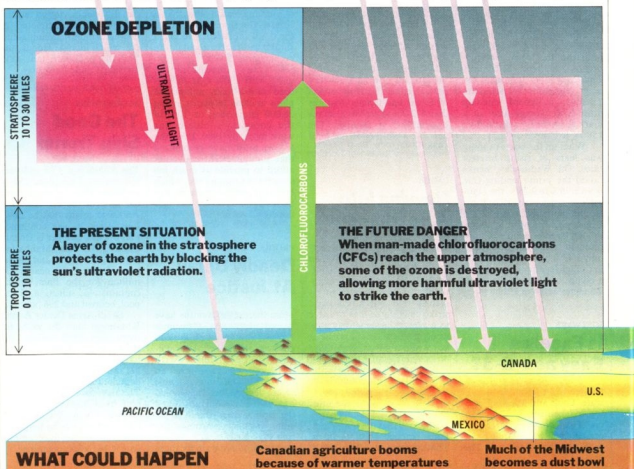
Chemical wastes spewed into the air threaten the earth's climate

At this time of year, the Cabo de Hornos Hotel in Punta Arenas (pop. 100,000) is ordinarily filled with tourists who spend their days browsing in the local tax-free shops or mounting expeditions into the rugged, mountainous countryside just out of town. But the 120 mostly American scientists and technicians who converged on Chile's southernmost city for most of August and September ignored advertisements for hunting, hiking and ski tours. Instead, each day they scanned the bulletin board

in the hotel lobby for the latest information on a different sort of venture.

Thirteen times during their eight-week stay, a specially outfitted DC-8 took off from the Presidente Ibañez Airport, twelve miles northeast of Punta Arenas. Often the 40-odd scientists and support crew listed for a given flight had to leave the hotel soon after midnight to prepare the plane and its research instruments. Once airborne, the DC-8 would bank south toward Antarctica, 1,000 miles away, fighting vicious winds before set-

ting into a twelve-hour round-trip flight at altitudes of up to 40,000 ft. Along the way, the instruments continuously collected data on atmospheric gases, airborne particles and solar radiation high above the frozen continent. Meantime, parallel flights took off from Ibañez to gather additional atmospheric data at nearly twice the altitude. Manned by a lone pilot, a Lockheed ER-2, the research version of the high-altitude U-2 spy plane, made twelve sorties into the lower stratosphere, cruising at nearly 70,000 ft., or more



than 13 miles, for six hours at a time.

Both aircraft were part of an unprecedented, \$10 million scientific mission carried out by the U.S. under the combined sponsorship of NASA, the National Oceanic and Atmospheric Administration, the National Science Foundation and the Chemical Manufacturers Association. The purpose: to find out why the layer of ozone gas in the upper atmosphere, which protects the earth's surface from lethal solar ultraviolet radiation, was badly depleted over Antarctica. The scale of the mission reflected an intensifying push to understand the detailed dynamics of potentially disastrous changes in the climate. The danger of ozone depletion is only part of the problem; scientists are also concerned about the "greenhouse effect," a long-term warming of the planet caused by chemical changes in the atmosphere.

The threat to the ozone was first discovered in 1983, when scientists with the British Antarctic Survey made the startling observation that concentrations of ozone in the stratosphere were dropping at a dramatic rate over Antarctica each austral spring, only to gradually become replenished by the end of November. At first they speculated that the phenomenon might be the result of increased sunspot activity or the unusual weather systems of

the Antarctic. It is now widely accepted that winds are partly responsible, but scientists are increasingly convinced that there is a more disturbing factor at work. The culprit: a group of man-made chemicals called chlorofluorocarbons (CFCs), which are used, among other things, as coolants in refrigerators and air conditioners, for making plastic foams, and as cleaning solvents for microelectronic circuitry. Mounting evidence has demonstrated that under certain conditions these compounds, rising from earth high into the stratosphere, set off chemical reactions that rapidly destroy ozone.

The precise chemical process is still uncertain, but the central role of CFCs is undeniable. Last month Barney Farmer, an atmospheric physicist at the Jet Propulsion Laboratory in Pasadena, Calif., announced that his ground-based observations as a member of the 1986 Antarctic National Ozone Expedition pointed directly to a CFC-ozone link. "The evidence isn't final," he said, "but it's strong enough." Earlier this month, results from NASA's Punta Arenas project confirmed the bad news. Not only was the ozone hole more severely depleted than ever before—fully 50% of the gas had disappeared during the polar thaw, compared with the previous high of 40%, in 1985—

but the CFC connection was more evident. Notes Sherwood Rowland, a chemist at the University of California at Irvine: "The measurements are cleaner this time, more detailed. They're seeing the chemical chain more clearly."

Atmospheric scientists have long known that there are broad historical cycles of global warming and cooling; most experts believe that the earth's surface gradually began warming after the last ice age peaked 18,000 years ago. But only recently has it dawned on scientists that these climatic cycles can be affected by man. Says Stephen Schneider, of the National Center for Atmospheric Research in Boulder: "Humans are altering the earth's surface and changing the atmosphere at such a rate that we have become a competitor with natural forces that maintain our climate. What is new is the potential irreversibility of the changes that are now taking place."

Indeed, if the ozone layer diminishes over populated areas—and there is some evidence that it has begun to do so, although nowhere as dramatically as in the Antarctic—the consequences could be dire. Ultraviolet radiation, a form of light invisible to the human eye, causes sunburn and skin cancer; in addition, it has been linked to cataracts and weakening of the

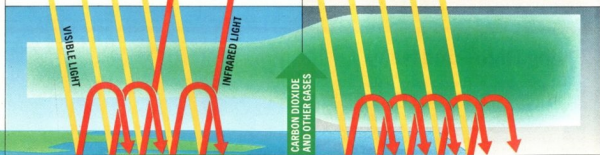
GREENHOUSE EFFECT

THE PRESENT SITUATION

Visible light passes through the atmosphere to the earth's surface. The earth radiates the heat as infrared rays; some escapes, but carbon dioxide and other gases in the troposphere trap the rest, warming the earth.

THE FUTURE DANGER

Burning of fossil fuels and other processes (both natural and man-made) add excessive carbon dioxide and other gases to the atmosphere, preventing additional infrared radiation from escaping, thus heating up the earth even more.

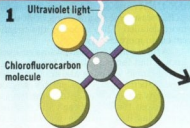


Sea level rises, flooding portions of the East and Gulf coasts

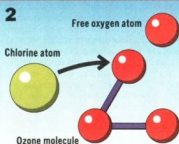
ATLANTIC OCEAN

TIME Diagram by Joe Lortie

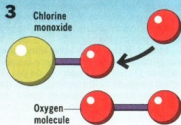
HOW OZONE IS DESTROYED



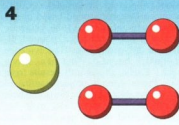
In the upper atmosphere ultraviolet light breaks off a chlorine atom from a chlorofluorocarbon molecule



The chlorine attacks an ozone molecule, breaking it apart



An ordinary oxygen molecule and a molecule of chlorine monoxide are formed



After a free oxygen atom breaks up the chlorine monoxide, the chlorine is free to begin the process again (2)

HOW (Diagram by Jim Leshko)

immune system. Without ozone to screen out the ultraviolet, such ills will certainly increase. The National Academy of Sciences estimates that a 1% drop in ozone levels could cause 10,000 more cases of skin cancer a year in the U.S. alone, a 2% increase. These dangers were enough to spur representatives of 24 countries, gathered at a United Nations-sponsored conference in Montreal last month, to agree in principle to a treaty that calls for limiting the production of CFCs and similar compounds that wreak havoc on the ozone.

Potentially more damaging than

ozone depletion, and far harder to control, is the greenhouse effect, caused in large part by carbon dioxide (CO₂). The effect of CO₂ in the atmosphere is comparable to the glass of a greenhouse: it lets the warming rays of the sun in but keeps excess heat from radiating back into space. Indeed, man-made contributions to the greenhouse effect, mainly CO₂ that is generated by the burning of fossil fuels, may be hastening a global warming trend that could raise average temperatures between 2° F and 8° F by the year 2050—or between five and ten times the rate of increase that

marked the end of the ice age. And that change, notes Schneider, "completely revamped the ecological face of North America."

The relationship between CO₂ emissions and global warming is more than theoretical. Two weeks ago, a Soviet-French research team announced impressive evidence that CO₂ levels and worldwide average temperatures are intimately related. By looking at cores of Antarctic ice, the researchers showed that over the past 160,000 years, ice ages have coincided with reduced CO₂ levels and warmer interglacial periods have been marked by increases in production of the gas.

Although the region-by-region effects of rapid atmospheric warming are far from clear, scientists are confident of the overall trend. In the next half-century, they fear dramatically altered weather patterns, major shifts of deserts and fertile regions, intensification of tropical storms and a rise in sea level, caused mainly by the expansion of sea water as it warms up.

The arena in which such projected climatic warming will first be played out is the atmosphere, the ocean of gases that blankets the earth. It is a remarkably thin membrane: if the earth were the size of an orange, the atmosphere would be only as thick as its peel. The bottom layer of the peel, the troposphere, is essentially where all global weather takes place; it extends from the earth's surface to a height of ten miles. Because air warmed by the earth's surface rises and colder air rushes down to replace it, the troposphere is constantly churning. A permanent air flow streams from the poles to the equator at low altitudes, and from the equator to the poles at higher levels. These swirling air masses, distorted by the rotation of the earth, generate prevailing winds that drive weather across the hemispheres and aid the spread of pollutants into the troposphere. Above this turmoil, the stratosphere extends upward to about 30 miles. In the lower stratosphere, however, rising air that has been growing colder at higher and higher altitudes begins to turn

Flying High—and Hairly

From preflight preparation to landing, piloting NASA's specially equipped ER-2 high-altitude research aircraft is not for the fainthearted. The three pilots who flew the twelve solo missions through the Antarctic ozone hole found the task grueling. An hour before zooming into the stratosphere, each had to don a bright orange pressure suit and begin breathing pure oxygen to remove nitrogen from the blood and tissues, thus preventing the bends, which can result from rapid reductions in air pressure. Once airborne, "you have to have patience," says Pilot Ron Williams, who flew the first mission. "You're strapped into a seat and can't move for seven hours."

Although the pilots had been briefed by meteorologists on what to expect, they still found conditions aloft astonishingly harsh. Accustomed to clear, broad vistas at high altitudes, the pilots—who took the ER-2 as high as 68,000 ft.—were startled to encounter layers of translucent mist composed of tiny ice



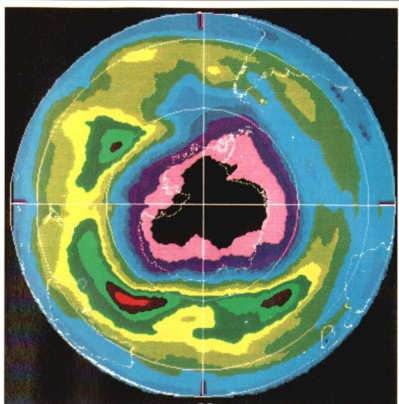
Harsh and lonely work: NASA's high-altitude ER-2 research plane

warmer. The reason, in a word: ozone.

Ozone (O_3) is a form of oxygen that rarely occurs naturally in the cool reaches of the troposphere. It is created when ordinary oxygen molecules (O_2) are bombarded with solar ultraviolet rays, usually in the stratosphere. This radiation shatters the oxygen molecules, and some of the free oxygen atoms recombine with O_2 to form O_3 . The configuration gives it a property that two-atom oxygen does not have: it can efficiently absorb ultraviolet light. In doing so, ozone protects oxygen at lower altitudes from being broken up and keeps most of these harmful rays from penetrating to the earth's surface. The energy of the absorbed radiation heats up the ozone, creating warm layers high in the stratosphere that act as a cap on the turbulent troposphere below.

Ozone molecules are constantly being made. But they can be destroyed by any of a number of chemical processes, most of them natural. For example, the stratosphere receives regular injections of nitrogen-bearing compounds, such as nitrous oxide. Produced by microbes and fossil-fuel combustion, the gas rides the rising air currents to the top of the troposphere. Forced higher still by the tremendous upward push of tropical storms, it finally enters and percolates slowly into the stratosphere.

Like most gaseous chemicals, man-made or natural, that reach the stratosphere, nitrous oxide tends to stay there. Indeed, a recent National Academy of Sciences report likened the upper atmosphere "to a city whose garbage is picked up every few years instead of daily." As long as five years after it leaves the ground, N_2O may finally reach altitudes of 15 miles and above, where it is broken apart by the same ultraviolet radiation that creates ozone. The resulting fragments—called radicals—attack and destroy more ozone molecules. Another ozone killer is methane, a carbon-hydrogen compound produced by microbes in swamps, rice paddies and the intestines of sheep, cattle and termites.



Worse than ever: satellite image recorded Oct. 5 showing ozone hole over Antarctica

For millennia, the process of ozone production and destruction has been more or less in equilibrium. Then in 1928 a group of chemists at General Motors invented a nontoxic, inert gas (meaning that it does not easily react with other substances) that was first used as a coolant in refrigerators. By the 1960s, manufacturers were using similar compounds, generically called chlorofluorocarbons, as propellants in aerosol sprays. As industrial chemicals, they were ideal. "The propellants had to be inert," says Chemist Ralph Cicerone, of

the National Center for Atmospheric Research. "You didn't want the spray in a can labeled 'blue paint' to come out red. Since then the growth of CFCs has been fabulous, and they've been pretty useful." Indeed, CFCs turned out to be a family of miracle chemicals: produced at a rate of hundreds of thousands of tons yearly, they seemed almost too good to be true.

They were. In 1972 Rowland heard a report that trace amounts of CFCs had been found in the atmosphere in both the northern and southern hemispheres. What were

particles. "I went into clouds at 61,000 ft., and I didn't come out the whole time," says Williams of the first flight. Another surprise: temperatures did not warm when the plane soared into the stratosphere. Instead, they plummeted to $-130^\circ F$, low enough to cause worries about a fuel freeze-up.

At 60,000 ft., winds as high as 150 knots buffeted the aircraft. Even so, the real difficulty came from 40-knot gusts that tossed the plane around during landings. With special scientific instruments installed in pods on its long, droopy wings, the ER-2 is "like a big albatross—it's heavy-winged," says Operations Manager James Cherbonneau of NASA's Ames Research Center. While watching a particularly hairy approach to the runway at Punta Arenas, he recalls, "I chewed a little bit of my heart out."

Conditions aboard the DC-8 were considerably better. The plane, which carried up to 41

scientists, flew no higher than 42,000 ft. on its 13 missions, and those on board were free to move about. But heavy clouds obscured views of Antarctica most of the time, and the flights

were a tedious eleven hours long. Observes Atmospheric Scientist Ed Browell, of NASA's Langley Research Center in Virginia: "I sort of likened what we were doing to taking off from the East Coast, flying to the West Coast to do our work, then flying back East to land."

To break the monotony, scientists took aboard a variety of stuffed animals, including a seal, cat and penguin, and warmed up snacks of pizza, empanadas, popcorn and hamburgers in the microwave oven. Cabin temperature was kept cool to avoid overheating the high-tech instrumentation. Says Atmospheric Physicist Geoffrey Toon, of the Jet Propulsion Laboratory in Pasadena, Calif.: "If you tried to sleep during your off hours, usually you froze."



Williams suits up for takeoff

Environment

they doing there? The answer, as Rowland and his colleague, Mario Molina, soon found, was that there was nowhere else for them to go but into the atmosphere. CFCs in aerosol cans are sprayed directly into the air, they escape from refrigerator coils, and they evaporate quickly from liquid cleaners and slowly from plastic foams.

In the troposphere, CFCs are immune to destruction. But in the stratosphere, they break apart easily under the glare of ultraviolet light. The result: free chlorine atoms, which attack ozone to form chlorine monoxide (ClO) and O_2 . The ClO then combines with a free oxygen atom to form O_3 and a chlorine atom. The chain then repeats itself. "For every chlorine atom you release," says Rowland, "100,000 molecules of ozone are removed from the atmosphere."

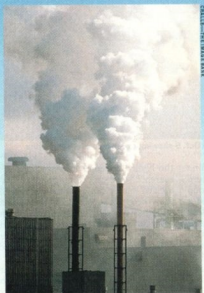
reason: computers prescreening data from monitoring satellites had been programmed to dismiss as suspicious presumably wild data showing a 30% or greater drop in ozone levels. After British scientists reported the deficit in 1985, NASA went back to its computer records, finally recognizing that the satellite data had been showing the hole all along.

Still, the existence of an ozone hole did not necessarily mean CFCs were to blame, and a number of alternative explanations were proposed. Among them, says Dan Albritton, director of the Federal Government's Aeronomy Laboratory in Boulder, was the notion that the "hole did not signify an ozone loss at all, just a breakdown in the distribution system." An interruption in the movement of air from the tropics,

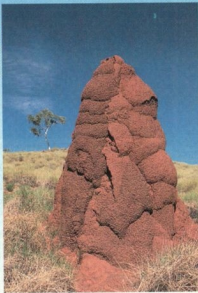
exists and that its abundance is high enough to destroy ozone, if our understanding of the catalytic cycle is correct. We need to go back to the lab and resolve the uncertainty."

That is not all. Scientists are still not completely sure why the hole remains centered on the Antarctic or why the depletion is so severe. It may have to do with the peculiar nature of Antarctic weather. In winter the stratosphere over the region is actually sealed off from the rest of the world by the strong winds that swirl around it, forming an all but impenetrable vortex. Says Cicerone: "Looking down at the South Pole is like watching fluid draining in a sink. It's like an isolated reactor tank. All kinds of mischief can occur."

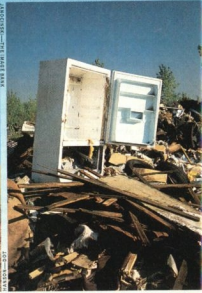
One likely source of mischief making:



Factory in Saskatchewan: industrial emissions increase airborne CO₂



Termite mound in Australia: a prolific producer of methane gas



Abandoned refrigerator: coolants are made up of ozone-attacking CFCs

In 1974 Rowland and Molina announced their conclusion: CFCs were weakening the ozone layer enough to cause a marked increase in skin cancers, perhaps enough to perturb the planet's climate by juggling the stratosphere's temperature profile. In 1978 the U.S. banned their use in spray cans. "People assumed the problem had been solved," recalls Rowland. But the Europeans continued to use CFCs in aerosol cans; other uses of CFCs began to increase worldwide. Says Rowland: "All along, critics complained that ozone depletion was not based on real atmospheric measurements—until, that is, the ozone hole appeared. Now we're not talking about ozone losses in 2050. We're talking about losses last year."

For several years NASA's scientists failed to accept data on the Antarctic ozone hole that was before their eyes. The

where most ozone is created, to the poles could easily result in less ozone reaching the Antarctic. Another theory: perhaps the sunspot activity that peaked around 1980 created more ozone-destroying nitrogen radicals than usual, which would be activated each spring by sunlight.

But while most scientists agree that atmospheric chemistry and dynamics are major causes, the increased scrutiny of the Antarctic atmosphere following the discovery of the hole has seriously undercut the sunspot theory. Data from Punta Arenas, says Robert Watson, a NASA scientist involved in that study, made the verdict all but final. Nitrogen and ozone levels were down, but concentrations of chlorine monoxide were 100 times as great as equivalent levels at temperate latitudes. Says Watson: "We can forget the solar theories. We can no longer debate that chlorine monoxide

clouds of ice particles in the polar stratosphere. Explains Rowland: "Mostly, you don't get clouds in the stratosphere because most of the water has been frozen out earlier. But if the temperature gets low enough, you start freezing out the rest." Indeed, ice may prove to be a central cause of the ozone hole, since it provides surfaces for a kind of chemistry only recently associated with reactions in the atmosphere. In a gaseous state, molecules bounce around and eventually some hit one another. But adding a surface for the molecules to collect on speeds up the reactions considerably.

It is not yet clear whether ozone depletion in the Antarctic is an isolated phenomenon or whether it is an ominous warning signal of more slowly progressing ozone destruction worldwide. Data indicate that the decline over the past eight years is 4% to 5%. Scientists estimate that

natural destruction of the ozone could account for 2% of that figure. The Antarctic hole could explain an additional 1%. The remaining 1% to 2% could simply be the result of normal fluctuations. As Albritton's research team reported, "A depletion of this magnitude would be very difficult to identify against the background of poorly understood natural variation."

The same can be said for the greenhouse effect: it is too soon to tell whether unusual global warming has indeed begun. Unlike ozone depletion, the greenhouse effect is a natural phenomenon with positive consequences. Without it, points out Climate Modeler Jeff Kiehl, of the National Center for Atmospheric Research, "the earth would be uninhabitable. It is what keeps us from being an ice-frozen planet like Mars." Indeed, if gases like CO₂ did not trap the sun's energy, the

continues, that concentration will double, trapping progressively more infrared radiation in the atmosphere.

The consequences could be daunting. Says National Center for Atmospheric Research's Francis Bretherton: "Suppose it's August in New York City. The temperature is 95°; the humidity is 95%. The heat wave started on July 4 and will continue through Labor Day." While warmer temperatures might boost the fish catch in Alaska and lumber harvests in the Pacific Northwest, he says, the Great Plains could become a dust bowl; people would move north in search of food and jobs, and Canada might rival the Soviet Union as the world's most powerful nation. Bretherton admits that his scenario is speculative. But, he says, "the climate changes underlying it are consistent with what we believe may happen."

athan, "we've committed ourselves to a climatic warming of between one and three degrees Celsius [1.8° F to 5.4° F], but we haven't seen the effect." This extra heat, now trapped in the oceans, he says, should be released over the next 30 to 50 years—unless, of course, an event like a big volcanic eruption counteracts it. Notes Ramanathan: "By the time we know our theory is correct, it will be too late to stop the heating that has already occurred." Schneider sees no need to wait. Says he: "The greenhouse effect is the least controversial theory in atmospheric science."

Maybe. But climate is governed by an array of forces that interact in dizzyingly complex ways. The atmosphere and oceans are only two major pieces of the puzzle. Also involved: changes in the earth's movements as it orbits the sun, polar ice caps, and the presence or absence of



Clearing the Amazon: deforestation adds to the greenhouse effect



Fast-food leftovers: deteriorating plastic foam containers give off CFCs



Sichuan paddies: underwater bacteria generate heat-absorbing gases

earth's mean temperature would be 0° F, rather than the current 59°.

Still, as far back as the late 1890s, Swedish Chemist Svante Arrhenius had begun to fret that the massive burning of coal during the Industrial Revolution, which pumped unprecedented amounts of CO₂ into the atmosphere, might be too much of a good thing. Arrhenius made the startling prediction that a doubling of atmospheric CO₂ would eventually lead to a 9° F warming of the globe. Conversely, he suggested, glacial periods might be caused by diminished levels of the gas. His contemporaries scoffed. Arrhenius, however, was exactly right. In his time, the CO₂ concentration was about 280 to 290 parts per million—just right for a moderately warm, interglacial period. But today the count stands at some 340 p.p.m. By 2050, if the present rate of burning fossil fuels

Such changes may already be under way. Climatologists have noted an increase in mean global temperature of about 1° F since the turn of the century—within the range predicted if the greenhouse effect is on the rise. But, warns Roger Revelle, of the University of California at San Diego, "climate is a complicated thing, and the changes seen so far may be due to some other cause we don't yet understand." The absence of a clear-cut signal, however, does not disprove the theory. Scientists expect any excess greenhouse warming to be masked for quite some time by the enormous heat-absorbing capacity of the world's oceans, which have more than 40 times the absorptive capacity of the entire atmosphere.

"Right now," declares University of Chicago Atmospheric Scientist V. Raman-

vegetable and animal life. "The feedbacks are enormously complicated," says Michael MacCracken, of the Lawrence Livermore National Laboratory in California. "It's like a Rube Goldberg machine in the sense of the number of things that interact in order to tip the world into fire or ice."

One of the most fundamental elements of the Rube Goldberg machine is the three astronomical cycles first described by Serbian Scientist Milutin Milankovitch in the 1920s. The swings, which involve long-term variations in the wobbling of the earth's axis, its tilt and the shape of its orbit around the sun, occur every 22,000, 41,000 and 100,000 years, respectively. Together they determine how much solar energy the earth receives and probably cause the earth's periodic major ice ages every 100,000 years or so, as well as shorter-term cold spells.

Cloudy Crystal Balls

Climatologists regularly issue confident warnings about impending atmospheric disasters. The secret of their wizardry: sophisticated computer models, which are no more than mathematical representations of the world's climate and the conditions that scientists think may contribute to a specific phenomenon like, say, ozone depletion. Unfortunately, when all the variables are fed into the computer, the predictions can fail miserably to match reality.

Take the Antarctic ozone hole, for example. Before it was discovered, climate modelers trying to simulate ozone loss in the atmosphere had not yet factored in the presence of ice clouds in the Antarctic stratosphere. Thus their models failed to predict the existence of the ozone hole. After the hole was finally stumbled upon two years ago, Susan Solomon, a chemist at the National Oceanic and Atmospheric Administration in Boulder, and Rolando Garcia, of the National Center for Atmospheric Research, plugged more numbers into NCAR's computer model to account for the Antarctic ice clouds. Bang! The hole appeared.

Does that mean, as one critic put it, that models projecting climatic change are "just the opinion of their authors about how the world works"? Not necessarily. That the model eventually proved accurate, if only in hindsight, was a tribute to the powers of computer climate models—and a demonstration of their shortcomings. The models attempt to reduce the earth's climate to a set of grids and numbers, then manipulate the numbers based on the physical laws of motion and thermodynamics. The sheer number of calculations involved is mind-boggling. A three-dimensional model, for example, requires more than 500 billion computations to simulate the world's climate over one year.

Not surprisingly, the earliest models in the 1960s were hopelessly simplistic. The earth's surface was often reduced to one continent with one ocean, fixed cloud cover and no seasons. But as computing power grew, so did the complexity of climate modeling. Continents were added. So were mountain ranges, deeper oceans and surface reflectivity.

Even so, climate modelers admit, building a completely realistic mock earth is an impossibly tall order. "You divide the world into a bunch of little boxes," explains Michael MacCracken, an atmospheric scientist at Lawrence Livermore National Laboratory. The size of the geographic box—the degree of detail called for—limits the model. Smaller grids dramatically increase the number-crunching power required. "The state of the art would be to get down to small areas so we can say what's going to happen in Omaha," says Livermore's Stanley Grotch. "The models just aren't that good yet."

Why, then, do scientists trust them? How do they assess their accuracy? "You compare them with reality," explains

Princeton Climatologist Syukuro Manabe. "How well do they reproduce the movement of the jet stream, the geographical and seasonal distribution of rainfall and temperature? You can also reproduce climate changes from the past. Eighteen thousand years ago, there was a massive continental ice sheet. Given the conditions that we know existed, can we reproduce accurately the distribution of sea-surface temperatures then? The answer is, We can do this very well. It gives you some confidence." Large-scale phenomena can be modeled more easily than those affecting small areas. So when it comes to the global warming produced by the greenhouse effect, for example, the outlines are predictable but the specifics are not. Says Manabe: "All we can say is that maybe the mid-continental U.S. becomes dryer."

A major drawback of computer models is that the various data do not necessarily behave as a system. Coaxing ocean currents to interact with the atmosphere is no small matter. For starters, oceans heat and cool far more slowly than the atmosphere. "We've had a hard time coupling the two systems," admits Manabe. "Even though the atmospheric model and ocean model work individually, when you put them together, you get crazy things happening. It's taken us 20 years to get them together, and we're still struggling."

Offsetting the obvious weaknesses of climate models, says Warren Washington, who developed the model now used at NCAR, is one significant advantage. "They are experimental tools that allow us to test our hypotheses," he says. "We can ask such questions as 'What happens when a big volcano like El Chichón goes off?' and 'How much will the earth warm up by 2030 if we continue to dump CO₂ into the atmosphere?'"

Models can also describe the effects of climatic phenomena that have never been seen. In 1983 a group of scientists that included Cornell's Carl Sagan calculated what would happen if the U.S. and the Soviet Union fought a nuclear war. Their conclusion: the dust and smoke from burning cities would blot out enough sunlight to plunge the land into a "nuclear winter" that would devastate crops and lead to widespread starvation.

The problem with their model was that it ignored such key factors as winds, oceans and seasons. When NCAR's Stephen Schneider and Starley Thompson ran the numbers through their agency's three-dimensional computer model, they found that the winter would be more like a "nuclear autumn." Schneider says the less dramatic conclusion does not change the fact that "nuclear autumn is not going to be a nice picnic out there on the rocks watching the leaves change color." Despite the limitations and omissions of climate models, he argues, scientists cannot afford to ignore their predictions. They are, he concedes, a "dirty crystal ball." The question is, How long do you wait to clean the glass before you act on what you see inside?"

—By David Bjerkle

Reported by J. Madeleine Nash/Chicago



"Nuclear autumn": a modeling of the aftermath